RIVERS AND HARBORS—MISCELLANEOUS

(No. 86–14)

THE UNIVERSITY OF MICHIGAN

DEC 3 1959

MAIN READING ROOM

HEARING

BEFORE THE

SUBCOMMITTEE ON RIVERS AND HARBORS

OF THE

COMMITTEE ON PUBLIC WORKS

HOUSE OF REPRESENTATIVES

EIGHTY-SIXTH CONGRESS

FIRST SESSION

ON

H.R. 8171

AMENDING THE ACT OF FEBRUARY 20, 1931, AS AMENDED, WITH RESPECT TO A RAIL TRANSIT CROSSING ACROSS THE BAY OF SAN FRANCISCO

H.R. 8347

TO AUTHORIZE THE ACQUISITION OF LAND FOR A NATIONAL WILDLIFE REFUGE AT JACKSON LOCK AND DAM NAVIGATION PROJECT, ALABAMA

H.R. 5738

TO AUTHORIZE THE SECRETARY OF THE ARMY TO TRANSFER TO THE WAUKEGAN PORT DISTRICT THE COMMITMENT OF THE CITY OF WAUKEGAN, ILL., TO MAINTAIN A PUBLIC WHARF IN WAUKEGAN HARBOR ON LAND CONVEYED TO THE CITY IN 1914; AND FOR OTHER PURPOSES

RESOLUTION DOCKET NO. 1036

SLACK-WATER NAVIGATION, MISSOURI RIVER, FROM YANKTON, S. DAK., TO THE MOUTH

AUGUST 26, 1959

Printed for the use of the Committee on Public Works

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RIVERS AND HARBORS—MISCELLANEOUS

WEDNESDAY, AUGUST 26, 1959

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON RIVERS AND HARBORS
OF THE COMMITTEE ON PUBLIC WORKS,
Washington, D.C.

The subcommittee met at 10 a.m., in room 1302, New House Office Building, Hon. John A. Blatnik (chairman of the subcommittee) presiding.

Mr. BLATNIK. The Subcommittee on Rivers and Harbors of the House Public Works Committee will please come to order.

We are holding public hearings on sundry bills and resolutions in order to wind up the work for this session.

First on the agenda is a bill introduced by several of our colleagues from California, a bill amending the act of February 20, 1931, as amended, with respect to a rail transit crossing across the bay of San Francisco.

(H.R. 8171 follows:)

[H.R. 8171, 86th Cong., 1st sess.]

A BILL Amending the Act of February 20, 1931, as amended, with respect to a rail transit crossing across the Bay of San Francisco

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That subsection (b) of section 2 of the Act entitled "An Act granting the consent of Congress to the State of California to construct, maintain, and operate a bridge across the Bay of San Francisco from the Rincon Hill district in San Francisco by way of Goat Island to Oakland", approved February 20, 1931, as amended, is amended to read as follows:

"(b) The State of California is authorized to fix, charge, and collect tolls for the use of such bridge to pay the costs of engineering, planning, constructing, reconstructing, making alterations, additions, betterments, improvements, and extensions (including reasonable interest, financing, and refunding costs, and suitable reserves), and the cost of maintaining, repairing, and operating of not to exceed two additional highway crossings and one rail transit crossing across the Bay of San Francisco and their approaches. The State of California is also authorized to fix, charge, and collect tolls for the use of such additional highway crossing or highway crossings. After a fund shall have been provided from the tolls collected for the use of the bridge referred to in the first section of this Act and from tolls charged for the use of such additional highway crossing or highway crossings sufficient to pay all costs referred to in clauses (2) and (3) of subsection (a) and also all costs of such additional highway crossing or highway crossings, such rail transit crossing, and their approaches (including the costs of all reconstruction, alterations, additions, betterments, improvements, and extensions thereof and all interest, financing, and refunding costs, and suitable reserves), such bridge and such additional highway crossing or highway crossings shall thereafter be maintained and operated free of tolls, or the rates of toll shall thereafter be adjusted so as to provide a fund of not to exceed the amount necessary for the proper maintenance, repair, and operation of such bridge and such additional highway crossing or highway crossings and their

approaches, under economical management. An accurate record of the costs of such bridge, such highway crossing or highway crossings, such rail transit crossing, and their approaches, the expenditures for maintaining, repairing, and operating such bridge and such additional highway crossing or highway crossings, and of the daily tolls collected, shall be kept and shall be available for the information of all persons interested. Nothing herein shall impair or limit the full power and authority of the State of California or any public body in such State to provide for the use of such rail transit crossing and the fixing, charging, and collection of fares and charges in connection with the transportation of goods or passengers by means of such rail transit crossing."

Mr. BLATNIK. We have several of our colleagues here this morning. Normally we prefer to have the Corps of Engineers present the technical and engineering and related testimony, to be followed by expressions of support and interest by the members involved; but since there are several of the members who are due to go to other committees, we will proceed by having their statements first. I will first call upon Mr. Baldwin, member of the committee and author of one of the bills, H.R. 8171. The other bills listed are identical; is that correct?

Mr. BALDWIN. They are identical except for a technical change in H.R. 8171. Mr. Chairman, I would like to yield at this time to Mr. Miller and Mr. Mailliard, who are both here and need to go to other meetings.

STATEMENT OF HON. GEORGE P. MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. MILLER. I think the people from the bay area of California are pretty well centered on these bills. There are some little differences in them that we know you will iron out, but in principle they are for the betterment of the bay area. I would like to associate myself with what Mr. Mailliard is going to tell you.

Mr. BLATNIK. Mr. Mailliard, we welcome you this morning.

STATEMENT OF HON. WILLIAM S. MAILLIARD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. MAILLIARD. I do not intend to go into any of the technicalities, but all of us in the bay area have joined to support Mr. Baldwin's bill, which will enable the local area to construct a tube which will carry rapid transit vehicles from one side of San Francisco Bay to the other.

I would like to point out the original act which we are amending authorized the construction of a bridge between Oakland and San Francisco and that original bridge had on it interurban train service. Because of the tremendous increase in motor vehicle traffic, those tracks have now been removed in order to use both decks for motor vehicle traffic, which leaves us with no means of getting public transit across from one side of the bay to the other.

This bill would, in effect, enable us to replace those tracks that were on the bridge in a tube that goes underneath the bridge. I just wish to thank the committee for holding a hearing on this bill and to urge that it be favorably considered.

Mr. AUCHINCLOSS. Do you know of any opposition to this bill?

Mr. MAILLIARD. I do not.

Mr. BALDWIN. Could I yield to the representative of Mr. Shelley, Mr. Henderson, who is here representing Mr. Shelley this morning?

STATEMENT OF CHARLES HENDERSON, ADMINISTRATIVE ASSISTANT TO HON. JOHN F. SHELLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. HENDERSON. Mr. Chairman and members of the committee, my name is Charles Henderson, and I am administrative assistant to Congressman Shelley. He unavoidably had to have a medical examination at Bethesda this morning that had already been scheduled before he knew of this meeting. He asked me to express his wholehearted support for Mr. Baldwin's bill and ask for your favorable consideration.

Mr. BLATNIK. Thank you.

Mr. AUCHINCLOSS. Do you know of any opposition to this measure?

Mr. HENDERSON. None that has been expressed to Congressman Shelley.

STATEMENT OF HON. JOHN F. BALDWIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BALDWIN. I would like to make a brief statement. There is an urgency about this matter, and the State of California has passed in the last session of the legislature necessary authorizing legislation for construction of this rapid transit tube under the bay. The $500 million bond issue will go before the people in the five bay-area counties next year for construction of rapid transit facilities leading to the tube. This legislation has to be enacted before that bond issue can be submitted to the people. No Federal funds will be involved in this.

It is in accordance with the intent of the original bridge because the original bridge was multipurpose, both highway and rail, and the pressure of highway use is so great they had to take the rails off the bridge and had to put them under the bay.

Mr. BLATNIK. This matter will be brought up before the people in the election in November of 1960?

Mr. BALDWIN. Yes. There is a great deal of technical work involved in drafting all the arguments for and against the bond issue. In order for the bond issue to even be submitted, this authority by the Federal Government is required.

Mr. FALLON. Mr. Chairman.

Mr. BLATNIK. Mr. Fallon.

Mr. FALLON. Do you have rapid transit from San Francisco to Oakland?

Mr. BALDWIN. No; the streetcar facilities are being taken off the Bay Bridge because of the pressure of highway use. The streetcar facilities were run by the East Bay Key System, which was privately owned, but this is being replaced by a public body, the San Francisco Rapid Transit District, authorized by the State. This is a municipal body, a new type of rapid transit facility supposed to be able to move passengers at a rate about three or four times as fast as the old type facility. This will be strictly publicly owned.

Mr. FALLON. Is it necessary to put the tube in before you can transform the deck of the bridge now being used?

Mr. BALDWIN. No; they are taking the rail facilities off the bridge immediately and putting on buses in the intervening period.

Mr. BLATNIK. May we hear from the Corps of Engineers, the witness being Lt. Col. Robert J. Giesen, Assistant Chief of Civil Works, Corps of Engineers.

Colonel, will you give us the technical engineering aspects of this matter.

STATEMENT OF LT. COL. ROBERT J. GIESEN, ASSISTANT CHIEF OF CIVIL WORKS, CORPS OF ENGINEERS

Colonel GIESEN. Mr. Chairman and members of the committee, I do not have any technical information on this project. We have not been approached, to my knowledge, for a permit for this purpose, which would be the only way we would become aware of its location, and so forth.

The Department has commented formally on this bill, H.R. 8171. The others we have not. We assume they are substantially the same.

The comments of the Department are that we interpose no objection to the bill. The enactment would not involve an expenditure of Federal funds. The Bureau of the Budget advises there is no objection to the submission of the report.

To that I would like to add that we would expect that when the details of this crossing, in whatever form it may take, are worked out that it will be submitted in the usual manner for approval to determine nonobstructiveness to navigation.

Mr. BLATNIK. That is the usual procedure. Those involved understand that.

Colonel GIESEN. That is all I have.

Mr. BLATNIK. Are there any questions? If not, thank you, Colonel.

Next is Mr. Bradley D. Nash, Deputy Under Secretary for Transportation, Department of Commerce.

STATEMENT OF BRADLEY D. NASH, DEPUTY UNDER SECRETARY FOR TRANSPORTATION, DEPARTMENT OF COMMERCE

Mr. NASH. Mr. Chairman, we already have submitted a letter signed by the Secretary of Commerce, dated August 20, which indicates no objection whatsoever to this project. In fact, we think it is a logical development of the transportation facilities of that area. We have no objection and would like to so register ourselves, and unless you have questions that is all we have.

Mr. BLATNIK. The letter will be made part of the record at this point.

(The letter referred to follows:)

THE SECRETARY OF COMMERCE,
Washington, D.C., August 20, 1959.

HON. CHARLES A. BUCKLEY,
Chairman, Committee on Public Works,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your request for the views of this Department on H.R. 8171, a bill amending the act of February 20, 1931, as

amended, with respect to a rail transit crossing across the bay of San Francisco.

The proposed legislation would permit the use of tolls collected on the San Francisco-Oakland Bay Bridge for the construction, maintenance, and operation of a rail transit crossing, together with its approaches, across the bay of San Francisco. The highway crossing or crossings authorized under existing law (the act approved February 20, 1931 (46 Stat. 1192), as amended) would not be free of tolls, or the rates of tolls adjusted to provide for maintenance and operation, until all costs of such highway crossing or crossings and the proposed rail transit crossing had been met.

Historically, with certain exceptions authorized by law, Federal-aid highway legislation has been predicated upon a toll-free system of highways. Federal-aid highway funds, however, are not involved in the proposal covered by H.R. 8171. The San Francisco-Oakland Bay Bridge was approved in 1931 in order to provide a combined highway-rapid transit crossing of Oakland Bay to serve the needs of a growing metropolitan community and was financed entirely from revenue bonds. As the only direct means of travel from Oakland and environs to San Francisco, the present bridge was at a later date placed upon the National System of Interstate and Defense Highways.

Amendments to the basic 1931 statute have had the purpose of extending the community service principles of the original legislation. By later amendment two additional toll highway crossings were authorized in the San Francisco Bay area with the revenues to be pooled with the toll revenues of the present bridge. The subject bill would add an authorization for an additional rail rapid transit crossing to round out the community transportation needs as originally contemplated in the 1931 legislation. The cost of the rail transit system would be covered by the combined revenues of all the crossings while the State of California would retain full power and authority to provide for the use of the rail transit crossing and the fixing, charging, and collection of fares and charges in connection with the transportation of goods or passengers by means of such rail transit crossing. The bill would not specifically provide for the collection of tolls on the rail crossing.

The principle of the bill does not interfere with the program objectives of this Department, and it appears to be a legitimate extension of the original purpose of the San Francisco-Oakland Bay Bridge legislation. The bill is not in conflict with Federal-aid highway legislation. Therefore the Department would interpose no objection to the enactment of H.R. 8171.

We have been advised by the Bureau of the Budget that there would be no objection to the submission of this report to your committee.

Sincerely yours,

FREDERICK H. MUELLER,
Secretary of Commerce.

Mr. BALDWIN. I note Mr. Younger has just arrived. He is the author of one of the bills.

STATEMENT OF HON. J. ARTHUR YOUNGER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BLATNIK. Mr. Younger, we are hearing testimony on H.R. 8171 and related bills that are similar except for technical differences. Among them is your bill.

Do you have any statement to make?

Mr. YOUNGER. I appreciate very much that the committee has assigned these bills for consideration. They are highly important for the development of the bay area and the traffic in that area. We have all introduced similar bills. I think the record is quite clear as to the necessity for it.

I am strongly in favor of it and I hope your committee will take favorable action on these measures and report the bill to the House.

Mr. BLATNIK. Thank you very much.

Mr. FALLON. Mr. Chairman, I was out in that area last December, and I might tell the committee of the urgency for this legislation. I

went through, with the highway engineers, most of the phases of it, and I can say from being on the spot that this legislation is necessary and should have favorable action as soon as possible.

Mr. BLATNIK. We appreciate the comments of the gentleman from Baltimore, who is also chairman of the Public Roads Subcommittee, a foremost exponent and leader of the public works program. This bill normally would be before his committee except for the water crossing aspects. We appreciate the gentleman's cooperation.

Mr. DOOLEY. Mr. Chairman, I want to subscribe to the statement of the distinguished gentleman from Maryland. I was out to California, and I saw the traffic situation out there, which is very much in need of a solution. I think this bill would bring about that solution, and I am strongly in favor of it.

(Whereupon, the subcommittee proceeded to the consideration of other business.)

Mr. BLATNIK. Our next bill is H.R. 8347, by Mr. Boykin of Alabama, authorizing the acquisition of land for a national wildlife refuge at Jackson lock and dam navigation project in Alabama.

(H.R. 8347 follows:)

[H.R. 8347, 86th Cong., 1st sess.]

A BILL To authorize the acquisition of land for a national wildlife refuge at Jackson lock and dam navigation project, Alabama

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the project for Black Warrior, Warrior and Tombigbee Rivers, Alabama, is hereby modified to provide for the acquisition of land for wildlife purposes in connection with the Jackson lock and dam to permit the establishment of a wildlife refuge pursuant to the Fish and Wildlife Coordination Act (16 U.S.C. 663). Lands so acquired shall be made available to the Secretary of the Interior for the Choctaw National Wildlife Refuge.

Mr. BLATNIK. We will hear first from Mr. Lansing A. Parker, Assistant Director, Bureau of Sport Fisheries and Wildlife, Department of the Interior. He is accompanied by Mr. James T. McBroom, Chief, Branch of River Basins, Bureau of Sport Fisheries and Wildlife.

STATEMENT OF LANSING A. PARKER, ASSISTANT DIRECTOR, BUREAU OF SPORT FISHERIES AND WILDLIFE; ACCOMPANIED BY JAMES T. McBROOM, CHIEF, BRANCH OF RIVER BASINS, BUREAU OF SPORT FISHERIES AND WILDLIFE, DEPARTMENT OF THE INTERIOR

Mr. PARKER. Gentlemen, I have a short formal statement I would appreciate having the opportunity to read.

Mr. BLATNIK. You may proceed.

Mr. PARKER. Before reading my statement, I would like to offer a few introductory remarks as background information for this committee. It is a rather rare opportunity that members of the Bureau of Sport Fisheries and Wildlife have an opportunity to come before this committee because most of our legislation is handled by Merchant Marine and Fisheries.

So I would like to have an opportunity here to briefly summarize the waterfowl situation so that the committee will fully understand the importance of the bill being presented this morning. I am sure if

you have not already received word, by the time you get home you will know of the serious plight of waterfowl this fall due largely to drought conditions in the prairie States and the prairie Provinces of Canada.

In the past few years the Bureau of Sport Fisheries and Wildlife, together with the State game and fish departments, working through their four flyway councils, have been developing a list of habitat needs in order to perpetuate waterfowl at about at 1955–56 level, which would assure the preservation of the species as required under the international treaties with Canada and Mexico. Also it would afford opportunity for a reasonable harvest of the birds each fall.

In totaling the needs for the four flyways to get national figures, we determined there would be required about 6 million additional acres of habitat to perpetuate waterfowl at the level we had anticipated. About two-thirds, or 4 million acres, of it would be acquired by the Federal Government, and about 2 million acres by the individual State game and fish departments. Currently we have 3½ million acres, and the States have 2½ million acres.

In the 85th Congress an important amendment to the Migratory Bird Conservation Act was passed which earmarked all of the receipts of the duck stamp revenues for the purchases of waterfowl habitat, with the exception of the cost of processing the stamps. In addition, it raised the price of the stamp from $2 to $3; so if any of the members of the committee intend to hunt waterfowl this fall, they will find the price has gone up.

By this method of financing alone, it would take from 30 to 35 years to achieve the objectives that have been set forth. I am sure we all appreciate that by that time there will be no waterfowl habitat left to acquire because of population pressures, more intensive land use, drainage, filling, and so on. So that we need to take opportunities wherever they come about to acquire some waterfowl habitat.

The recent amendment to the Coordination Act passed by the 85th Congress provides authority to acquire lands and dual development to enhance water development projects for fish and wildlife benefits. This particular bill you are considering this morning would be the first authority requested under the Coordination Act to do just this, enhance the habitat on one of the water development projects.

To proceed with my formal statement, the Jackson lock and dam project offers outstanding opportunities for wildlife conservation and development. This can be accomplished without interfering with the construction and operation of the project for its primary purpose of improving river navigation.

In accordance with the Fish and Wildlife Coordination Act as amended in 1958 by Public Law 85–624, the U.S. Fish and Wildlife Service, in cooperation with the Alabama Department of Conservation, prepared a special report in January 1959 on the plan for construction of the Jackson lock and dam project with a plan for waterfowl development. That report recommended that, pursuant to authority which may be provided in subsection 3(c) of the Fish and Wildlife Coordination Act or such other authority as may be required, the Corps of Engineers acquire in fee title all lands in the project area on the west side of the river between miles 122 and 129 below elevation 33 feet, marginal lands blocked out along the guide-taking contour,

and all islands created by the impoundment and that these lands be made available for fish and wildlife management purposes in accordance with a general plan formulated pursuant to sections 3 and 4 of the Fish and Wildlife Coordination Act.

The additional cost to the project of acquiring these areas, totaling about 4,250 acres, in fee title, was estimated at $120,000.

We in the Fish and Wildlife Service think that the proposed development of a Federal refuge and a State-managed waterfowl area in conjunction with, and as an integral part of, the Jackson lock and dam project would be a good example of the significant benefits which can be realized by cooperative planning for fish and wildlife in water development projects. The desirability and need for such planning was the basis for the enactment by the Congress in 1958 of amendments to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Copies of the special report mentioned in the second paragraph of this statement have been supplied to the committee. It will be noted that the proposal which would be authorized by H.R. 8347 is strongly endorsed by the Department of the Interior. This special report contains a letter to the Chief of Engineers of January 29, 1959, signed by the Assistant Secretary of the Interior for Fish and Wildlife, Ross Leffler, which includes this endorsement. It will be noted also that the special report contains a letter of February 4, 1959, to Mr. Leffler signed by the Assistant Chief for Civil Works noting the merit of the proposal.

Following completion of this report, representatives of the Bureau of Sport Fisheries and Wildlife jointly with the Corps of Engineers conducted two public hearings in Alabama on the proposal so that the local sentiment in the project area for the refuge development could be gaged. The testimony offered at those hearings was generally in favor of establishment of the wildlife refuge.

There is a great need to develop to the fullest practicable extent the wildlife potentials of river basin projects in view of the growing demand of our people for outdoor recreation based on fishing and hunting opportunities. We believe that the proposal before you represents a splendid example of development and enhancement of these outdoor recreation opportunities in the wildlife conservation field in connection with a project of the Corps of Engineers.

The establishment of this wildlife refuge at the Jackson lock and dam project has the firm endorsement of National and Alabama State conservation organizations.

Consequently, we are pleased to endorse H.R. 8347, but recommend that it be amended as follows: On line 5, between the words "land" and "for" insert the phrase ", estimated to cost $120,000 in addition to other project costs,".

That concludes my testimony, Mr. Chairman.

Mr. BLATNIK. Mr. Parker, the total land area to be acquired is 4,250 acres?

Mr. PARKER. That is right, Mr. Chairman.

Mr. BLATNIK. The total cost is $120,000. This is broken down in two categories by land?

Mr. PARKER. Yes.

Mr. BLATNIK. The record should show the breakdown.

Mr. PARKER. 2,025 acres, which would be acquired; flowage easements would have been acquired anyway irrespective of the project.

Mr. BLATNIK. Would you please repeat that.

Mr. PARKER. For 2,025 acres flowage easements would have been acquired anyway, and I understand the cost would amount to the same whether acquired in fee simple or as a flowage easement because it would be permanently flooded. The 2,225 acres would be added to square off for the refuge.

Mr. BLATNIK. The remaining 2,000 acres are a 300-mile strip on the shore, plus the islands?

Mr. PARKER. That is right.

Mr. FALLON. Mr. Chairman.

Mr. BLATNIK. Mr. Fallon.

Mr. FALLON. Mr. Parker, I see in your statement that you have at the bottom of the third page: ", estimated to cost $120,000 in addition to other project costs,". What is the total cost?

Mr. PARKER. I wonder if I could refer that question to the Corps of Engineers. I understand it is in the neighborhood of $21 million. I would rather defer that question to the corps.

Mr. BLATNIK. You state you held public hearing on this proposal to get local sentiment. The testimony offered at these hearings was generally in favor of establishment of the wildlife refuge. Can you give us some more details on that? Who was opposed to it?

Mr. PARKER. Generally, the people in opposition would be those who you would expect in any project—those people that would lose their lands. In some instances I understand they represented some of the lumber companies that had timber holdings there. Generally, it was the local people who would lose land that would be needed for the project.

Mr. FALLON. Will the gentleman yield?

Mr. BLATNIK. Mr. Fallon.

Mr. FALLON. You say that the additional project cost is $21 million. Has that already been authorized?

Mr. PARKER. I am sorry, I cannot answer that.

Mr. FALLON. This bill is just for the additional cost?

Mr. PARKER. That is exactly right.

Mr. BLATNIK. Mr. Auchincloss.

Mr. AUCHINCLOSS. I do not quite understand how large the area will be after the acquisition of these 4,250 acres. How large will the area be?

Mr. PARKER. That would be the total extent of the wildlife refuge—4,250 acres.

The State has anticipated leasing hunting rights on the other side of the river, but they would lease it with their own money. That is the part referred to as the State portion of this particular project. We are not concerned necessarily about that this morning. That would be something for the State fish and game department to work out with the local people who own the land.

Mr. MACK. Mr. Chairman.

Mr. BLATNIK. Mr. Mack.

Mr. MACK. Mr. Parker for what purpose is this 4,250 acres used now?

Mr. PARKER. Some of it is forestry and there is some cultivated land in the area now.

Mr. MACK. Is it in multiple ownership? Do many people own this?

Mr. MCBROOM. I am not certain as to the number of owners, but several own it.

Mr. MACK. How about the State officials? Are they in favor?

Mr. PARKER. Yes.

Mr. MACK. Did the Governor OK it?

Mr. PARKER. Very definitely.

Mr. MACK. Did I understand you to say in the beginning the program you propose to carry out will involve 6 million acres over the United States?

Mr. PARKER. That is our goal as far as the total waterfowl needs of the country are concerned. Of course, much of it will be financed with the duck stamp revenues that come in each year.

Mr. MACK. How much of that 6 million acres does the Federal Government now own?

Mr. PARKER. The 6 million total are additional needs. We have 3½ million acres now. The Federal share would be in terms of about 4 million acres of the 6.

Mr. MACK. The States would own the other 2 million?

Mr. PARKER. 2½ million; and they have 2½ million now.

Mr. MACK. There is a project like this in Pacific County in the State of Washington. I received petitions signed by many hundreds of people in protest to the establishment of this particular area as a wildlife refuge. The protests come from rank and file people. There is a tremendous protest from the county officials on the basis of taking a good deal of land off the tax rolls with no substitute for it in the nature of revenue.

Mr. PARKER. Mr. Mack, I think that is generally the experience we have where we move into a new area. You can well appreciate that a man owning the land does not want to sell. I do not blame him for that.

Mr. MACK. People who do not own the land are protesting mainly because the program is taking land off the tax rolls, which deprives the local schools and other agencies of funds with which to operate local government.

Mr. PARKER. Once these refuges get into production, there are frequently sources of revenue that come to the Federal Government, of which 25 percent goes back to the county, and very frequently as our program develops there are opportunities for forestry, sale of stumpage, and so on. Very frequently the income from the 25 percent will exceed the old tax base that was paid when the lands were in private ownership.

Mr. MACK. You mean this land is forestry land that the Department of the Interior takes over its management and gives to the local government 25 percent of the revenues?

Mr. PARKER. The provision in the act is that 25 percent of all revenues coming from the Federal wildlife refuges goes to the county.

Mr. MACK. What are those revenues derived from?

Mr. PARKER. In some instances it is timber stumpage, sometimes it is hay stumpage, grazing rights, sometimes land is cultivated, sharecropped.

Mr. MACK. You permit use of this land for agricultural purposes?

Mr. PARKER. Yes, so long as it is compatible with the primary purpose of the refuge.

Mr. MACK. Why do you not take easements instead of outright ownership?

Mr. PARKER. Frequently we do, but in the case of waterfowl area we have to flood most of it for waterfowl purposes, and when we do that the lands, of course, would not be of use.

In the case of the upland areas, in many places we feel we have to develop supplementary feed supplies in addition to aquatic vegetation, so we farm it and grow grains to feed waterfowl. Frequently that is done on a share basis with the people immediately around.

Mr. MACK. In acquiring this timberland, do you manage the timber and plant new trees to replace the old and practice sustained yield?

Mr. PARKER. We do not ordinarily buy much timberland. We are interested in marshland, but there are occasions when in the acquisition to square out a manageable area, we get land with timber on it. Then we attempt to manage them under good forestry practice.

Mr. MACK. What does this stamp tax bring in to the Federal Government annually?

Mr. PARKER. Duck stamp revenues?

Mr. MACK. Yes.

Mr. PARKER. About $4.5 million at the $2 stamp.

Mr. MACK. What will it cost to carry out this 6 million-acre program?

Mr. PARKER. It is hard to speculate. I would suppose that it would run in the neighborhood of an average of $50 an acre or $200 million.

Mr. MACK. Do you figure this duck stamp tax will finance the program?

Mr. PARKER. Absolutely not. As I pointed out in my opening remarks, if we do, it would be 30 or 40 years to achieve that goal; and I think by that time the remaining marshes would have pretty well disappeared.

Mr. MACK. What is your schedule, how many years?

Mr. PARKER. We are going ahead on the basis of about $6 to $6½ million a year revenue from the duck stamp. That is the only money we have available to buy land.

Mr. MACK. You have not asked the Department or the Appropriations Committee for any funds for outright purchase with Treasury money?

Mr. PARKER. That's right. For that reason, we think we should take advantage of everyone of these projects where we can fit waterfowl habitat into the primary purpose of the project.

Mr. MACK. I have been somewhat concerned in the *Pacific County* case because all the people I have heard from seem to be in protest to the proposal of establishing that preserve in Pacific County, and the Department is going ahead and the case is now in court condemning the property. I do not feel like interfering with the court case after start of condemnation.

Mr. PARKER. Once we get that refuge rolling, the funds from the sale of products will probably return to the county as much as they are getting in taxes now.

Mr. MACK. I only know the county officials are not convinced of that at the present time, judging from my correspondence. That is all.

Mr. BLATNIK. If there are no further questions, thank you very much, Mr. Parker.

We will hear next from Mr. Carter Page, Chief of the Planning Division, Civil Works Office, Chief of Engineers.

STATEMENT OF CARTER PAGE, CHIEF, PLANNING DIVISION, CIVIL WORKS OFFICE, CHIEF OF ENGINEERS

Mr. PAGE. Mr. Chairman, we appreciate the opportunity to be here to testify on the bill, H.R. 8347. This bill which is under consideration by your committee is a legislative expression of the type of coordination between water resources projects of the corps and the Federal and State fish and wildlife programs. The coordination was provided for in the recently enacted Fish and Wildlife Coordination Act. This bill would modify the authorized project for the Warrior and Tombigbee Rivers in Alabama to provide for acquisition of land for wildlife purposes in connection with the Jackson lock and dam. This, as Mr. Parker indicated, would permit the establishment of a wildlife refuge. The land so acquired would be made available to the Secretary of the Interior for the Choctaw National Wildlife Refuge.

The Jackson lock and dam is an authorized project which is now under construction as a part of the program for modernization of the Warrior-Tombigbee Waterway. It will replace three obsolete locks and dams.

The project has an overall cost of $21 million and is now about 25 percent complete. About a year ago representatives of the Fish and Wildlife Service approached the Corps of Engineers with the proposal that a Federal wildlife refuge be established on the water area that would be impounded by the lock and dam and on the lands immediately adjacent to it. They pointed out that this would be in accord with the new Fish and Wildlife Coordination Act, which provides for such project modifications and for acquisition of the necessary lands when recommended by the construction agency and authorized by the Congress.

This proposal was studied by the Corps of Engineers, and our biologists concluded that it had unusual merit. Because of its location, it appears that the Jackson lock and dam has a unique potential for substantial development of wildlife and migratory waterfowl. The construction of large reservoirs in the Tennessee and Cumberland Valleys has created what in effect is a new flyway for such fowl. The Jackson pool in southern Alabama will constitute, we understand, an important link in this new reservoir-flyway system between those areas and the wintering grounds for fowl on the gulf coast.

The proposal involved merely is that we acquire fee title to certain lands in the reservoir area on which we would normally have acquired only flowage easements to serve the purpose of the navigation project. In addition, certain bordering lands and islands would be also acquired. According, the corps stopped its land acquisition proceedings until the matter could be explored further.

As Mr. Parker indicated, two public hearings were held and at those hearings the proposal was strongly supported by the State of Alabama and by local, State, and National conservation organizations. It was also supported by the majority of local county and municipal organizations.

In view of this support and the obvious merit of the proposal and the fact that project modification was compatible with the authorized project purpose—that is, navigation—and the fact that the cost involved amounted to less than 1 percent of the total cost of the project, the Chief of Engineers prepared a favorable report.

That report was submitted to this committee on August 19 by the Secretary of the Army, and after having been cleared favorably by the Bureau of the Budget. The recommendations in the report follow those of the Secretary of the Interior and provide for the acquisition of over 4,000 acres of land, 2,025 acres of which will be fee title on which we would have acquired only flowage previously, and the additional land of 1,000 acres on islands and 1,225 acres will be around the margin of the reservoir.

The present bill, H.R. 8437, has been referred to the Department of the Army by this committee. The report of the Acting Secretary of the Army favors enactment of the bill. He suggests, however, the same change in wording which Mr. Parker mentioned, which is to include after the word "land" in line 5 the following language: ", estimated to cost $120,000 in addition to other project costs,". The purpose of this suggested change is merely to show clearly in the legislation the general scope of the proposed modification. The favorable report of the Department of the Army has been cleared by the Bureau of the Budget.

This is the first case of this kind of cooperation between the Corps of the Engineers and the Fish and Wildlife Service under the new Coordination Act. We believe this is an excellent example of the way in which water resources projects may contribute to preservation and enhancement of fish and wildlife to the overall public benefit.

Gentlemen, that completes my statement. I will be glad to answer any questions.

Mr. BLATNIK. Mr. Page, how much land will the corps have to acquire just for the purposes of this project itself?

Mr. PAGE. We would acquire the 2,000 acres in fee, and 2,025 in flowage.

Mr. BLATNIK. For the purposes of this refuge this bill would request an additional 2,000?

Mr. PAGE. Yes, sir; additional 2,225 acres.

Mr. BLATNIK. I am not quite clear. Is the cost of this acquisition charged to the project?

Mr. PAGE. Yes, sir, it will be; but this will give us that authority to expend the additional $120,000.

Mr. BLATNIK. In short, the Fish and Wildlife Coordination Act of last year, August 1958, authorizes the corps to acquire this additional land beyond the needs of the project itself for the wildlife-refuge purpose, the corps acquires that additional land as part of the project costs and transfers it over to the Department of the Interior without cost to the Department of the Interior; is that correct?

Mr. PAGE. This is the way it is, Congressman. The Fish and Wildlife Coordination Act authorizes the modification of projects but requires that when we recommend the acquisition of additional land, that specific congressional authority be obtained for such acquisition. That is the purpose of this bill, to give us that authority specifically.

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The Wildlife Coordination Act in itself in its wording does not actually authorize us to acquire this land.

Mr. BLATNIK. You are asking for this authorization that the corps acquire the land as part of their project?

Mr. PAGE. That is correct, sir.

Mr. BLATNIK. The additional 2,000 acres will be transferred to the Department of the Interior for wildlife management; is that correct?

Mr. PAGE. Yes, sir; that and the other land, too.

Mr. BLATNIK. Is there anything adverse to this in the Department of the Army or the Corps of Engineers?

Mr. PAGE. No, sir.

Mr. MACK. I understand that Mr. Parker says it often costs as much to acquire easement rights as it does to acquire the land itself; is that correct?

Mr. PAGE. Yes, sir. Our experience has been that quite often the cost of flowage easements is very close to, if not equal to, the cost of fee title.

Mr. MACK. I always thought this acquisition of flowage rights was a very sound money-saving device, but it does not seem to be that.

Mr. PAGE. In practice I do not think we save much money, although there are cases, Mr. Mack, where it is a money-saving device.

Mr. MACK. It does have the advantage of keeping the land in cultivation in some cases.

Mr. PAGE. That is correct. sir. On many of our projects all we need is flowage.

Mr. BLATNIK. If there are no further questions, thank you very much, Mr. Page.

Congressman Boykin could not be here this morning. He sent advance word to the Chair. He strongly urges favorable consideration. He has sent his administrative assistant here. Give your full name and title.

STATEMENT OF ALPHONSE LUCAS, SECRETARY TO HON. FRANK W. BOYKIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALABAMA

Mr. LUCAS. Mr. Chairman, I am Alphonse Lucas, Congressman Frank W. Boykin's secretary.

The Congressman has one of his bills coming up on the floor today and he was with the chairman of his committee. He had planned to be here personally, and he asks that this statement on this bill be made part of the record.

Mr. BLATNIK. Without objection, it is so ordered.

(The statement submitted by Congressman Boykin follows:)

STATEMENT BY CONGRESSMAN FRANK W. BOYKIN ON H.R. 8347

I am particularly proud and happy to appear here in support of my bill, H.R. 8347, to authorize the acquisition of land for a national wildlife refuge at the Jackson lock and dam project in Alabama.

First of all, I am proud because this represents the first project to be developed for wildlife conservation under the amendments to the Fish and Wildlife Coordination Act adopted unanimously by the Congress last year. It was my privilege to introduce the bill which became the amending act. It had the unanimous support of all the national conservation organizations, the Corps of Engineers, the Department of the Interior, and the administration. The act has

been hailed by Secretary of the Interior Fred A. Seaton as the most important conservation legislation in a quarter of a century. The President signed it into law on August 12, 1958. It provides the basis for joint planning by the Corps of Engineers and the Fish and Wildlife Service for wildlife conservation and development in our great water resources program. It gives me great pride to see the splendid manner in which the Corps of Engineers and the Fish and Wildlife Service have worked together under that act to develop this proposal for your consideration.

I am also most proud to recommend approval of this bill because it represents a needed wildlife improvement in my own district. As a part of the careful preparation of the plan by the Fish and Wildlife Service and the Corps of Engineers, the two agencies held two joint public hearings in the immediate area of the project. Local interests there, as well as the State of Alabama, whose department of conservation assisted in the preparation of the plan, are enthusiastically in favor of the establishment of this refuge.

As chairman of the Fisheries and Wildlife Conservation Subcommittee of the Merchant Marine and Fisheries Committee of this House, I am keenly aware of the need for the conservation and development of our wildlife resources while we are developing and improving our water resources for other purposes. Our Nation and our State are demanding ever greater opportunities for outdoor recreation based on fishing and hunting. It is up to us to see that our Federal and State programs provide these opportunities for the physical and spiritual well-being of our citizens.

I urge the committee, in the public interest, to consider this bill favorably and promptly.

Mr. MACK. The Congressman is in favor of the project?

Mr. LUCAS. Yes, sir.

Mr. FALLON. Our next bill on the agenda this morning is H.R. 5738, sponsored by Mrs. Church.

(The bill referred to follows:)

[H.R. 5738, 86th Cong., 1st sess.]

A BILL To authorize the Secretary of the Army to transfer to the Waukegan Port District the commitment of the city of Waukegan, Illinois, to maintain a public wharf in Waukegan harbor on land conveyed to the city in 1914; and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Army, or his designee, is hereby authorized and directed to (1) accept a reconveyance from the city of Waukegan, Illinois, of that property transferred to the city by deed from the Secretary of War dated August 17, 1914, and (2) simultaneously convey said property to the Waukegan Port District without payment of monetary consideration therefor, but subject to those conditions the Secretary deems necessary in the public interest, including the assumption by the port district, its successors and assigns, of the city's obligation under the August 17, 1914, deed to maintain a public wharf on the property described therein: *Provided*, That in the event the property is not used for the aforementioned purpose, title thereto shall, at the option of the Secretary of the Army, revert to the United States of America which shall have the right of immediate entry thereon.

STATEMENT OF HON. MARGUERITE STITT CHURCH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mrs. CHURCH. Mr. Chairman, I am happy to present my request for favorable action by the Committee on Public Works on H.R. 5738, introduced by me on March 17, 1959, to correct an existing situation relative to the transfer of the title to a certain small section of property, together with transfer of reservation, from the city of Waukegan to the Waukegan Port District.

H.R. 5738 would authorize the Secretary of the Army to transfer to the Waukegan Port District the commitment of the city of Waukegan, Ill., to maintain a public wharf in Waukegan Harbor on land conveyed to the city in 1914.

I would point out that the city of Waukegan has already conveyed to the Waukegan Port District all of the city dock in front of the Waukegan Yacht Club and extending north to the end of the steel dock. This bill seeks to permit the city to convey an additional 250 feet, extending north from the south line of Clayton Street, which has been leased by the city to the port district. This legislation is required because when the city acquired this property from the Federal Government (which was by a deed from the Secretary of War to the city of Waukegan dated August 17, 1914, recorded in the Recorder's Office of Lake County, Ill., as Document No. 155072) there was a reservation in the deed which provided that the city would forever hold the title to the same, and maintain thereon a suitable public wharf which would always be open to the public on like terms for lake service.

The port district wishes to finance a warehouse or dock installation upon this 250 feet of property, but does not feel that such action would be wise in view of the limitation of its 20-year lease.

The city of Waukegan has advised the port district that it is willing to convey this property to the port district if it is released from its commitment to the U.S. Government. If the port district receives title to this property, the port district has stated that it will assume the obligation of the city of Waukegan, under the August 17, 1914, deed, to maintain a public wharf on the property.

Transfer of the fee title to the Waukegan Port District will greatly facilitate the development of terminal facilities. The Department of the Army has no objection to enactment of this bill, H.R. 5738; and there is no expenditure of any Department of the Army funds involved.

If I may, I would like to include in the record at this point a telegram received yesterday from the Honorable Robert Sabonjian, mayor of Waukegan.

Mr. FALLON. Without objection, it will be included in the record at this point.

(The telegram referred to follows:)

WAUKEGAN, ILL., *August 25, 1959.*

MRS. MARGUERITE STITT CHURCH,
House of Representatives, Washington, D.C.:

The city of Waukegan supports H.R. 5738, urges its adoption, and will cooperate with the Waukegan Port District to carry out its purposes. The bill will make all necessary conveyances. This bill is necessary to further the development of the port of Waukegan.

ROBERT SABONJIAN, *Mayor.*

Mr. FALLON. Thank you, Mrs. Church.

Mr. MACK. This merely transfers the land from one Government agency to another Government agency?

Mrs. CHURCH. It transfers the land from the city of Waukegan to the Port Authority of Waukegan, which was established by the State of Illinois.

Mr. MACK. Both of which are public agencies?

Mrs. CHURCH. Both of which are public agencies operating in the same area.

Mr. AUCHINCLOSS. Do you know of any objections?

Mrs. CHURCH. Absolutely none. The city was not at liberty to transfer this 250 feet which was necessary in conjunction with the whole property which had been ceded.

Mr. FALLON. Thank you, Mrs. Church.

We will now hear from Mr. Milton Pearl, Real Estate Division, Office of the Chief of Engineers.

STATEMENT OF MILTON PEARL, REAL ESTATE DIVISION, OFFICE OF THE CHIEF OF ENGINEERS

Mr. PEARL. The Department of the Army interposes no objection to the bill. We have a continuing residual requirement for the maintenance of public works facilities in Waukegan Harbor, but we are willing to accept the commitment of the port district to do this in place of the city, and it is just a technical matter to effect this transfer because under existing legislation there is no way by which we can do it.

As stated by Representative Church, the city has a commitment to maintain the public wharf and to forever hold title to the property. This bill would permit us to accept a reconveyance of the property from the city and simultaneously transfer title to the port district, which in turn would assume the very same commitment that the city now has. We think it is in furtherance of navigation generally to permit this to be done so that the one agency, the public agency that is developing all of the port facilities, would have all the land under its jurisdiction.

Mr. FALLON. Is there any rent involved?

Mr. PEARL. No, sir.

Mr. FALLON. At the present time?

Mr. PEARL. No, sir. There are no funds involved, and there will be no funds involved in the future, and there is no expenditure involved.

Mr. FALLON. Thank you very much.

DOCKET NO. 1036, SLACK-WATER NAVIGATION, MISSOURI RIVER, FROM YANKTON, S. DAK., TO THE MOUTH

The next matter on the agenda is Docket No. 1036, "Slack-Water Navigation, Missouri River, From Yankton, S. Dak. to the Mouth."

The estimated cost is $300,000.

Our first witness is Mr. Carter Page.

STATEMENT OF CARTER PAGE, CHIEF, PLANNING DIVISION, CIVIL WORKS OFFICE, CHIEF OF ENGINEERS—Resumed

Mr. PAGE. The resolution 1036 which you have under consideration would authorize the Corps of Engineers to make a review of the project for the Missouri River to investigate the advisability of modifications aimed primarily at the development of slack-water navigation from the mouth to Yankton, S. Dak.

The authorized project for improvement of the Missouri River and tributaries provides for securing a navigable channel 9 feet in depth from the mouth of the river near St. Louis to Sioux City, Iowa, in addition to the upstream reservoirs.

This navigation improvement is being accomplished by the revetment of banks, construction of permeable dikes, cutoffs, closing of minor channels, removal of snags, and dredging as required, which in conjunction with other upstream releases, will maintain a depth adequate for navigation.

The authorized channel and related works are about 90 percent completed between the mouth and Kansas City, 86 percent completed between Kansas City and Omaha, and 53 percent completed between Omaha and Sioux city, Iowa. At the present time, during periods of normal flow in the navigation season, mid-March through November, the channel has controlling depths varying from about 7 feet below Kansas City to around 4 feet from Omaha to Sioux City in the largely unimproved reach.

Commercial traffic transported on the Missouri River in 1958 amounted to 596 tons between the mouth and Kansas City, and 202,000 tons between Kansas City and Omaha.

Local interests desire further development of the water resource potential of the Missouri River by providing slack-water navigation from the mouth of the river to Yankton, S. Dak., about 80 miles above Sioux City, Iowa, and 4 miles below Gavins Point Dam. They propose that this be accomplished by a series of dams with locks that would provide continuous pools from the mouth to Yankton. This, they contend, would allow more effective use of the upstream navigation storage for other at-site beneficial purposes such as hydroelectric power. Also, some interests propose development of hydroelectric power at some or all of the slack-water navigation dams.

Previous studies of a project for slack-water navigation on the Missouri River were made during preparation of the report which was published as House Document No. 238, 73d Congress. In those studies, consideration was limited to relatively low dams which would confine the pools within the riverbanks insofar as practical and would avoid inundating much of the wide fertile flood plain. Because of the comparatively low heads at these dams and because hydroelectric power was not in as great demand in the basin at that time, consideration was not given to including facilities for this purpose. Based upon the studies made at that time it was concluded that the same benefits to navigation could be obtained by open-river regulation at less cost than by improvement for slack-water navigation.

The economic justification of a slack-water navigation project on the Missouri River must be regarded as questionable. Nevertheless, in view of major physical and economic changes in the basin since the prior studies, it might be desirable to undertake studies so that authoritative and up-to-date data will be available.

The cost of these initial studies on improvement of the Missouri River from the mouth of Yankton, S. Dak., for slack-water navigation is estimated to be $300,000 and would require about 5 years to complete. These studies would provide information concerning practicability, cost, and economic justification of the proposal. However, if improvements for slack-water navigation appear justified, additional and more detailed studies would be required to develop a specific plan of improvement for presentation to Congress. The need for and cost of these additional studies can only be determined with the preliminary studies.

Mr. BLATNIK. Thank you, Mr. Page.

We will now hear a cosponsor of the resolution, Mr. McGovern.

STATEMENT OF HON. GEORGE McGOVERN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF SOUTH DAKOTA; ACCOMPANIED BY LELAND OLDS, DIRECTOR, ENERGY RESEARCH ASSOCIATES

Mr. McGOVERN. I wonder if I might ask permission that Mr. Leland Olds, a former chairman of the Federal Power Commission, sit with me.

I am grateful to the committee for the opportunity to appear before you to urge the authorization of a study by the Corps of Engineers to determine whether improvements for slack-water navigation of the Missouri River from Yankton, S. Dak., to the mouth are advisable and economically feasible. I made a request for the authorization of such a study in a letter to Chairman Buckley on July 17.

I shall not take much of the committee's time, but I do want to tell you that the availability of a sufficient supply of water is the single most serious problem facing my State at this time. This year has been one of the driest in the history of the State. I am before you today because we are frightened by the fact that the water which would be available to us from the Missouri River is being wasted by being released 8 months of the year to permit free-flowing navigation downstream. This water will be sorely needed for domestic and irrigation purposes and for the generation of electric power in South Dakota and the other upper basin States. While irrigation has not been developed to a large extent as yet, the experience of our farmers this year of drought indicates how badly it is needed. Before too long the requirements in the upper basin States for irrigation alone will make it impossible to release the water necessary to provide for free-flowing navigation below. There is bound to be a sharp conflict between the upper and lower States.

At the present time the REA cooperatives and the municipalities are being deprived of hundreds of thousands of kilowatts of electric power from the hydroplants already installed on the Missouri because the water is not permitted to flow through the generators in the wintertime when the power is needed, but is stored to be released during the navigation months. The installed capacity at the existing dams, excluding Big Bend, will be really 1,600,000 kilowatts by 1963. Due to the wasteful use of the water, only approximately 1 million kilowatts of this capacity is being contracted to be sold as firm power by the Bureau of Reclamation. This means that a considerable portion of the requirements of the preference customers will have to be obtained from other sources at a cost more than double the Bureau rate. Most of the cooperatives in South Dakota were unable to obtain loans from the REA prior to Bureau power becoming available. Due to the population density of their consumers, many serving not more than one farm or ranch per mile, it was impossible for those cooperatives to develop projects which could repay the REA loan until the low-cost hydropower became available. If that low-cost power is now denied them because of the improvident management of the waters of the Missouri, the repayment of their loans to the Government will be placed in jeopardy. The same is true in the other upper basin States. I am informed that if a system of slack-water navigation were provided, almost the entire 1,600,000 kilowatts of capacity could be sold as firm power and navigation could still be carried on downstream in

even more favorable circumstances than now. In addition, a vast additional generation capacity would be made available downstream in connection with slack-water development.

At my request Mr. Leland Olds, director, Energy Research Associates, has prepared a memorandum outlining the background of a slack-water navigation program for the Missouri River below Yankton. Mr. Olds, who is a former Chairman of the Federal Power Commission, indicates that such a program offers these advantages;

(1) Better navigation, because the barge traffic will not be affected by the current which results from the fact that the river falls a total of 770 feet from the tailwater of the Gavins Point project to its confluence with the Mississippi River.

(2) Assurance that the right of the upper States to use Missouri waters for irrigation and other consumptive purposes will not ultimately curtail downstream navigation of the desired depth.

(3) Better use of the available flows for power purposes at the presently constructed and authorized main-steam projects from Gavins Point upstream to Fort Peck through eliminating the need for large release of water during the navigation months and providing greater assurance of maintaining reservoir levels.

(4) Development of 2,200,000 kilowatts of very good hydroelectric power from the 770-foot head between Gavins Point and the mouth, using the flows to produce some 12 billion kilowatt-hours of electricity.

(5) Improved management of the sediment which is one of the major problems of the basin, with possibilities that sound sound sediment engineering can transform it from a liability into an asset.

I offer a copy of Mr. Olds' memorandum for the record of this hearing. I am certain the committee will find it most useful.

Mr. BLATNIK. Without objection, it will be included in the record following your statement.

Mr. MCGOVERN. I would like to point out that we are only asking that the Missouri River be developed along the identical lines used on the Tennessee River and the Ohio River and virtually all of the other rivers of the country where navigation is carried on to any considerable extent. I am pleased to report that the Interagency Basin Committee has approved the study I am requesting. Many of the Governors of the basin States have individually urged that the study be made by the Corps of Engineers.

In closing, I want to say that we are extremely anxious to not become involved in conflict with our good friends in the States below us. However, we cannot sit idly by and watch our economy deteriorate because water which is made available by dams built in our State, and which dams resulted in thousands of acres of our good farmland being taken out of production, is being denied to us and given to others. We believe that we can have the use of the water which is vital to our welfare, and at the same time our friends downstream can have their wants taken care of if the river is properly developed. For that reason I respectfully urge this committee to authorize the necessary study.

I have some additional supporting statements from Gov. Ralph Herseth of the State of South Dakota, from the Bureau of Reclamation, from Mr. Olds, whom I have alluded to, Mr. Ken Holum, executive director, Mid-West Electric Consumers Association, Aberdeen, S. Dak.; Mr. James Ruddy, president of the Huron Chamber of Commerce Water Resources Committee; Mr. Norman Glader, chairman of

the Mobridge Chamber of Commerce Highway and Transportation Committee; and Mr. V. T. Hanlon, manager, East River Electric Power Co-op., Madison, Wis., and I should like to ask unanimous consent that they be included in the record at this point.

Mr. BLATNIK. Without objection, they will be included in the record at this point.

(The statements referred to follow:)

STATE OF SOUTH DAKOTA,
OFFICE OF THE GOVERNOR,
Pierre, July 28, 1959.

To the House Committee on Public Works.

MR. CHAIRMAN, GENTLEMEN OF THE COMMITTEE: As Governor of South Dakota, I wish to indicate my support and I am sure the strong support of South Dakota for a study of the possibilities of slack water navigation in the Lower Missouri River.

As the committee well knows, South Dakota is a State where rainfall and water are always limited and always precious. Our agricultural productivity, our industrial expansion, and the growth of our cities and towns are all measured by the amount of water available.

Because of our dependence upon water, South Dakota has contributed generously to the development of the Missouri River project. Four of the six great main-stem reservoirs are located in South Dakota, creating four great lakes and at the same time inundating much of our valuable river bottom land.

South Dakota people have been willing to contribute what has been necessary to provide flood protection for our downstream friends. We recognize and agree that stream flows must be maintained on a year-around basis to provide industrial and municipal water downstream and for sanitary purposes.

However, all South Dakotans are alarmed as they watch more and more of our water taken from South Dakota to support a 9-foot free flowing navigation channel. We find now that almost 75 percent of our water is being used for downstream purposes.

Both the 1957 and 1959 sessions of our legislature joined the citizens of our State in voicing their alarm at this extravagant use of the precious water produced and stored in South Dakota.

We do not like to quarrel with our downstream friends. We will, however, if we must to protect our water. As South Dakota's Governor, I would consider myself derelict if I did less than all I can do to protect this resource.

Fortunately these quarrels can be averted. We are confident that a slack-water navigation project can save our water and at the same time provide better navigation on the lower river.

For that reason, I joined the other Missouri Basin Governors at the Missouri Basin Interagency Committee Meeting at Council Bluffs, Iowa, April 16, in a resolution asking the Congress to authorize a study of such a project.

We hope that this committee will authorize study and that the Congress will appropriate the necessary funds. We are sure that slack-water navigation will be better, that it will conserve precious water and that it will promote better understanding among the basin interests.

Thank you.

RALPH HERSETH, *Governor.*

U.S. DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington, D.C., August 25, 1959.

The introduction of slack-water navigation in lieu of open-water navigation on the main stem of the Missouri River from Yankton, S. Dak., to the mouth of the river would provide greater flexibility in the operation of the main stem reservoirs of Fort Peck, Garrison, Oahe, Fort Randall, and Gavins Point and should result in a greater production and delivery of firm power to the transmission system of the Missouri River Basin project for marketing in the area. For this reason consideration should be given to a study of the possibility of slack-water navigation by the Corps of Engineers. Since present navigation releases do not coincide with the winter maximum firm power requirements of customers, a large portion of summer generation will be sold as nonfirm power

since it fails to meet the basic needs of firm power customers in the basin. In addition the monetary return on the sale of nonfirm power is less than for firm power which could be realized if the reservoirs could be operated under less strict requirements for navigational releases. With slack-water navigation, reservoir releases could be controlled more nearly to meet the needs of cusomers on a firm power basis. In addition slack-water navigation might provide a means of utilizing the potential head for power production between Yankton and the mouth by utilizing sites chosen for the installation of locks to install power equipment for the development of additional power resources not possible under the present plan. The method of navigation proposed for the river below Yankton would not interfere with the development of irrigation.

ENERGY RESEARCH ASSOCIATES

Washington, D.C.

JULY 20, 1959.

SLACK-WATER NAVIGATION PROGRAM FOR THE MISSOURI RIVER BELOW YANKTON

(Memorandum by Mr. Leland Olds)

A comprehensive program for multipurpose development of the Missouri River Basin requires improvement of the main stem below Yankton for slack-water navigation and hydroelectric power as a complement to the presently authorized programs of the Corps of Engineers and Bureau of Reclamation. In terms of the great value which such an addition to the program offers, the undertaking of the necessary studies by the Corps of Engineers is urgent.

The slack-water navigation program for the lower river has been considered as a solution to these problems: (*a*) how to assure, particularly during long dry cycles, ample water for irrigation and other consumptive purposes while maintaining 9-foot navigation below Yankton; (*b*) how to assure optimum use of power installations to meet demands for electricity without sacrificing navigable depth in the lower river; and (*c*) how to conserve the full hydroelectric potential of the river system.

Benefits offered

Slack-water navigation in the Missouri River between Yankton and its mouth offers the following advantages:

(1) Better navigation, because the barge traffic will not be affected by the current which results from the fact that the river falls a total of 770 feet from the tailwater of the Gavins Point project to its confluence with the Mississippi River.

(2) Assurance that the right of the upper States to use Missouri waters for irrigation and other consumptive purposes will not ultimately curtail downstream navigation of the desired depth.

(3) Better use of the available flows for power purposes at the presently constructed and authorized main-stem projects from Gavins Point upstream to Fort Peck through eliminating the need for large releases of water during the navigation months and providing greater assurance of maintaining reservoir levels.

(4) Development of 2,200,000 kilowatts of very good hydroelectric power from the 770-foot head between Gavins Point and the mouth, using the flows to produce some 12 billion kilowatt-hours of electricity.

(5) Improved management of the sediment which is one of the major problems of the basin, with possibilities that sound sediment engineering can transform it from a liability into an asset.

Governors suggest slack water in 1944

At the February 18 and 22, 1944, hearings, before the Committee on Rivers and Harbors of the House of Representatives, considering the river and harbor bill, Governors and other representatives of upper Missouri Basin States suggested slack-water navigation on the lower river as a means of protecting full use of water for irrigation.

Thus Gov. John Moses, of North Dakota, presenting a joint statement with Gov. Sam C. Ford, of Montana, and Gov. Lester C. Hunt, of Wyoming, said:

"We are not opposing the use of a reasonable amount of water for navigation below Sioux City but we are emphatic that the use in perpetuity of 32,000 or

35,000 cubic feet per second out of an average annual flow of 37,600 does not constitute either the most economic or the most beneficial use of such a valuable natural resource. If there could be inserted in the river and harbor bill or this committee should insert in your flood control bill language which guarantees a certain fair and equitable portion of Missouri River water for upstream consumptive use, an amount which might be agreed upon, and provide further a program for ultimately installing locks and dams so that as upstream demands increased the lock and dam installation program could provide the same or better water navigation with less and less water, thus releasing more and more water for upstream uses, we believe that you would be pointing in the direction of a fair and equitable solution to the problem, and greatly aid in a constructive economic development of the entire Missouri River Basin" (p. 4).

In this hearing Representative Frank A. Barrett, of Wyoming, said:

"We have not the slightest conflict with flood control on the Missouri. We want it. We really have not any conflict with navigation. If they would install locks and dams below Sioux City they can have navigation; but if there is a conflict, then I would say by all manner or means the people living in the upper States of the Missouri River Basin are entitled to first use of the water * * *" (p. 38).

In the same hearing Commissioner of Reclamation Harry W. Bashore pointed out that "the future development of such States as Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, and Colorado will require additional irrigation.'' He said:

"It seems to me that the Congress should consider the effect the proposed navigation project and the closely coordinated flood control projects presently before this committee may have on upstream irrigation developments. Perhaps only still-water navigation effected through the installation of a system of locks would permit the proposed 9-foot channel consistently with the increased consumptive use upstream for irrigation that is essential in the interest of the upper basin States" (p. 33).

To meet the questions raised as to possible conflict in use of water between future irrigation and the proposed 9-foot waterway in the lower river, the O'Mahoney amendment was added to the flood control bill, which provided:

Section 1 "(b) the use of navigation, in connection with the operation and maintenance of such works herein authorized for construction, of waters arising in States lying wholly or partly west of the 98th meridian shall be only such use as does not conflict with any beneficial consumptive use, present or future, in States, lying wholly or partly west of the 98th meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes."

Power potential in connection with slack-water navigation

During the later 1940's Federal Power Commission engineers, speaking at meetings of the Midwest Power Conference and the Missouri Inter-Agency River Basin Committee, called attention to the power potential available in connection with slack-water navigation program for the lower river. Speaking before the Midwest Power Conference in Chicago, April 4, 1946, B. H. Green, Federal Power Commission regional engineer, placed the total potential power in the Missouri Basin at about 5 million kilowatts, with an average annual generation of 25 billion kilowatt-hours. He said:

"As an instance of potential power may be mentioned the main stem of the Missouri River from Gavins Point on down to its mouth. In this reach there is a fall of about 700 feet and a potential possibility of from 10 to 15 billion kilowatt-hours per year. The eventual development of all or part of this is, of course, problematical; but it is important that the possibility of its realization be kept in mind, especially in the Commission's recurrent appraisals of power possibilities and probabilities" (p. 2).

This was in general reiterated in 1947 at a Cheyenne, Wyo., meeting of the Missouri Basin Interagency Committee, by Lester C. Walker, engineer, of the Federal Power Commission Chicago Regional Office.

Federal Power Commission memorandum emphasizes need for reexamination of Missouri River below Gavins Point

In its memorandum of May 1950 on the Missouri River Basin, prepared in response to a request from the President's Water Resources Policy Commission, the Federal Power Commission referred to 119 projects in the category of undeveloped power in the basin which "would provide an estimated aggregate installed capacity of 6,195,000 kilowatts with an average annual generation of

30,987,700,000 kilowatt-hours." This is additional to the 8 projects then under construction and the 19 authorized, with combined capacity of about 2,400,000 kilowatts and combined energy of about 10 billion kilowatt-hours.

Concerning the potential in the lower river the Commission memorandum says:

"That portion of the Missouri River main stem from the Gavins Point Dam site to the mouth has been surveyed and studied for navigation and flood control, and construction work to provide open river navigation and flood protection by levees is in progress. Extensive surveys and studies to determine the feasibility of developing the power potentialities of this stretch have not been made. *However, this section should be thoroughly reexamined in the light of the reduced silt load anticipated and in view of the changed regimen of the river that will obtain following the completion of the presently authorized storage reservoirs above Sioux City for the purpose of determining the feasibility and practicability of developing the potential of 2,200,000 kilowatts of hydroelectric power capacity in the stream, possibly in connection with the development of slack water navigation.*" [Emphasis supplied.] (Pt. I–3.)

After some discussion of the Commission principles of project formulation, the Commission memorandum proceeds:

"Considerable in the way of additional investigations are necessary in the Missouri Basin before it can be felt that the Commission's principles of river basin development have received full application to further possibilities for the development of power. An important case at point are the possibilities for slack-water navigation below Yankton, S. Dak., with attendant large blocks of power, improvement of power output at the main-stem dams at Gavins Point and above, and a very beneficial easing of conflicts in water use between upper and lower basin States" (pt. II–11).

Then in discussing specific policy problems as they have developed in the Missouri Basin, the memorandum has the following to say about conflicts between upstream and downstream interests in the use of the water resources of the basin:

"The use of water for irrigation purposes in the upstream areas of the Missouri River Basin conflicts with its use for navigation and other purposes in downstream reaches of the river by reducing the available flow at downstream points. However, existing legislation subordinates the use of water for navigation in the basin to its use for irrigation. There is the possibility, therefore, that future irrigation development may so reduce the flows as to jeopardize the planned open river navigation on the lower Missouri River. In this event, maintenance of navigability of the river would require the provision of slack-water navigation, which would permit the fullest development of irrigation upstream and also make possible the production of large amounts of hydroelectric power" (pt. III–1–2).

After recognizing the sediment problems in connection with any plan of development in this river basin, the Commission memorandum then turns to a specific discussion of the advantages of a power and slack-water navigation program below Yankton, S. Dak. It says in part:

"Large reservoirs on the upper river are being built to impound surplus waters of the upper basin to create a dependable source of water for irrigation, navigation, power, and domestic and industrial water supplies. *Under present plans there will be conflicts and limitation in the use of water because of a disproportionate shortage development which provides adequate control in the upper basin above Yankton and very little control in the lower basin.* The lower river must rely in major part on storage reservoirs in the upper basin for flow regulation for navigation and other purposes. The 'Pick-Sloan plan' has partially resolved the conflict between upstream use of water for irrigation and downstream use for navigation by provision of large hold-over storage reservoirs designed to operate for both purposes. [Emphasis supplied.]

"*It is possible that there may not be sufficient water in the upper basin for the long-range development of both upstream irrigation and downstream navigation of the desired depth unless the lower river is canalized for power and slack-water navigation, accompanied by greater regulation of water and silt originating from tributaries of the lower basin. A plan for slack-water navigation would make possible the development of hydroelectric power of a better character than is now possible at upper main stem projects, and more efficient navigation, and would resolve, in large part, conflicts and limitations in the*

use of water. Under such a plan, the water available for irrigation would be less restricted, reservoir operation would provide for augmentation of low flow and power when most needed in fall and winter and at a time when Mississippi River navigation needs additional flow, flood flows would be reduced by additional reservoirs and retarding basins, and navigation would be improved by a waterway with more depth and less velocity. [Emphasis supplied.]

"Although sufficient studies have not been made to determine exact methods of developing slack-water navigation, if the silt and river stabilization problems can be resolved, and if slack-water navigation and power can be developed feasibly, an aggregate power installation at lower main stem dams of about 2,200,000 kilowatts could be made, capable of generating, in the average year, about 12 billion kilowatt-hours after allowance for irrigation depletion" (pt. III-5).

Corps of Engineers prepared to deal with sediment problem

In a corresponding report to the President's Water Resources Policy Commission, dealing with the Missouri River Basin, the Corps of Engineers discusses at some length its preparedness for dealing with the sediment problems of this basin. In this report the corps says:

"Because of the importance of the sediment problem to many projects under the jurisdiction of the Corps of Engineers, the Missouri River Division of the corps has well underway an unprecedented and comprehensive sediment study program which is aimed at protection against possible sediment hazards and at taking advantage of certain sediment phenomena to induce more prompt and complete control of the Missouri River. In the conduct of this program, the advice and assistance of most of the recognized authorities in this field are being utilized" (pt. III–11).

The Corps of Engineers report summarizes its work on the sediment problem as follows:

"In summary, Corps of Engineers procedure in regard to the sediment problem involved in the development of water projects in the Missouri Basin is guided by a policy of (1) searching out and evaluating in advance all types of potential sediment hazards and opportunities, (2) making adequate provisions for handling potential sediment hazards associated with corps projects, and (3) *deliberately planning to take full advantage of new valuable opportunities which may be afforded by sediment phenomena.*" [Emphasis supplied.] (Pt. III–12.)

President's Water Resources Policy Commission considers slack-water possibility

In its report to the President, volume II, entitled "Ten Rivers in America's Future" (1950) the President's Water Resources Policy Commission included an analysis of the potentialities and problems of the Missouri River Basin. In its tentative list of hydroelectric power possibilities other than projects under construction, authorized, and recommended or contemplated, it includes the following between Yankton and the mouth of the River:[1]

	Ultimate capacity	Average annual energy
	Kilowatts	*Kilowatt-hours*
Yankton to Sioux City	160,000	700,000,000
Sioux City to Nebraska City	400,000	2,200,000,000
Nebraska City to Rulo	100,000	600,000,000
Rulo to Kansas City	340,000	2,000,000,000
Kansas City to mouth	1,200,000	6,500,000,000
Total	2,200,000	12,000,000,000

Pointing out that "further study is required to determine more definitely the details and desirability of such projects" it says: "For example, the totals include some 2.2 million kilowatts of capacity that might be developed in connection with slack-water navigation on the Missouri River below Yankton. Such possibilities are contingent on solving such difficult problems as sedimenta-

[1] These are not specific projects but potentialities in connection with slack-water navigation development of specified reaches of the river.

tion, obtaining adequate foundations for project structures, pollution, valley land inundation, seepage of valley lands, and relocation of existing facilities" (pp. 178–179).

Referring to the fact that the 15 million acre-feet of water required during the navigation season "cannot yet be accepted as a certainty during an extended dry period" the report continues, "The compatibility of navigation therefore must be examined in the light of possible adjustments in the navigation plan to reduce its flow requirements." It lists such possible adjustments as "increased channel maintenance; shortened navigation seasons; refinement of bank stabilization control works; and slack-water navigation" (vol. II, p. 200).

Later, in discussing the rate of power development and integration with navigation and other purposes, the President's Water Resources Policy Commission report on the Missouri Basin says in part:

"The possible future provision of slack-water navigation on the Missouri River between Yankton and the mouth would make possible the development of some 2.2 million kilowatts of generating capacity in the area of greatest need. Such development would improve navigation conditions by reducing velocities, and help resolve possible conflicts between consumptive use of water upstream and navigation requirements downstream.[44] It would also improve the character and value of power produced at main stem reservoirs by eliminating the need to conserve water for navigation months, a procedure which results in reduced flow during winter months, and smaller power output.

"Power possibilities at reservoirs on lower basin tributaries would also be improved by slack-water navigation on the Missouri River. The large planned water releases from these tributary reservoirs in the interest of navigation on the Mississippi River could be reduced if larger winter releases were permitted from main stem Missouri reservoirs" (vol. II, p. 256).

The report refers to the future needs for power in the lower Missouri River Basin and notes that some of it may be supplied from the 2.2 million kilowatts developed as part of the slack-water navigation plan. It adds: "The possibility of this needed power gives added justification for slack-water navigation works. However, development of this power, like navigation, can proceed only after sediment control and channel stabilization are well along" (vol. II, p. 256).

Senate Interior Committee hearings on Federal power marketing problems support urgency of slack-water navigation survey

Important testimony before the Senate Committee on Interior and Insular Affairs, in its hearings in February 1959, on Federal power marketing problems, supports the conclusion that full use of Missouri waters for all purposes will be incomplete without provision for slack-water navigation in the lower river below Yankton, S. Dak. Among other things, the evidence is clear that the large releases of water, required to maintain 9-foot depth navigation during the 8-month navigation season, result in the production of a surplus of energy at the main-stem powerplants during the summer, balanced by corresponding deficit of energy to support the capacity available in winter months.

Early in the hearings a witness placed in the record a joint memorial of the Montana Legislature urging Congress to investigate the supply, control, allocation, and use of Missouri Basin waters and power (p. 12). And J. W. Grimes, chief engineer and executive officer, South Dakota Water Resources Commission, presented a statement of Gov. Ralph Herseth of South Dakota, whose first recommendation reads as follows:

"As Governor of the State of South Dakota, in the best interests of the people of the State, and so that South Dakota may make its proper contribution to the national economy:

"1. I urge then, that the Congress initiate an investigation of slack-water navigation on the lower Missouri River as a sound technique for water conservation" (p. 24).

Similarly A. S. Wendel, vice president of the Northwest Iowa Paper Cooperative, and the Woodbury County Rural Electric Cooperative of Iowa, speaking also as vice president of the Mid-West Electric Consumers Association said:

"Finally, it must be admitted that there are many divergent views about the use and management of the Missouri River. These ideas involve navigation,

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[44] There are other problems requiring solution before slack-water navigation may be considered feasible. Among them are sediment control, pollution abatement, seepage into valley land, and land inundation."

flood control, recreation, irrigation, power generation, etc. It is only too obvious that the maximum of all these recognized benefits can only be obtained through the proper management of that precious resource—water. There is one method used on practically every other river in the country and has been the means by which the maximum of all benefits has been obtained. I refer to slack-water navigation. We urge that authorization be granted for an immediate engineering study of slack-water navigation on the Missouri River" (p. 29).

Virgil T. Hanlon, manager of East River Power Cooperative of South Dakota, member of the Governor's Power Supply Committee, testified that 600,000 kilowatts of the Bureau of Reclamation generating capacity in the river was being left unfirmed and that, when firmed up, it would give preference customers more than 100 percent of their 1965 needs. The second of his seven recommendations was, "2. Initiate a study of the feasibility of slack-water navigation."

The hearing record contains the Summary Report on Operation of Missouri River Main Stem Reservoirs, 1958–59, by R. J. Pafford, Jr., Chief, Reservoir Control Center, U.S. Army Engineer Division, Missouri River, and a review by the Coordinating Committee on Missouri Main Stem Reservoir Operations of testimony on this report at a public hearing. Both reveal the extent to which wasteful use of water to maintain open river navigation during 8 months of the year is creating problems in terms of other uses of the river, particularly power. The Committee held that the suggestion that a solution could be found in slack-water navigation was beyond its responsibility (pp. 51–52).

The coordinating committee expresses its view "that both navigation and power are important primary functions of the main stem reservoirs, and that both functions, along with the others, are to be served equitably." It refers to the report of a special subcommittee of the Missouri River Inter-Agency Committee indicating that, when the main stem reservoir system is completed, "operations completely ignoring navigation would produce power benefits only 2 to 10 percent greater than with multiple-purpose operations serving both functions." On this basis, it found "no economic justification for eliminating navigation service in the interest of power production" (p. 63).

The alternative is, of course, slack-water navigation which would both improve navigation and secure up to 10 percent greater power benefits from the presently authorized power projects, as well as the large block of additional power associated with a slack-water program for the lower river.

In the hearings, William E. Trommershausen, engineer of R. W. Beck, Associates, employed by the Mid-West Electric Consumers Association, testified:

"In our 1957 report to this Committee, we pointed out that the firming up of Federal hydropower by thermal power in the Missouri Basin required a comprehensive study, and that such a study should be the responsibility of the Federal Government, with cooperation from preference customers and others as required" (p. 94).

Reference to the Senate Interior Committee's 1957 hearings on Missouri Basin water problems, finds this witness stating:

"It is my conviction that power marketing studies may show that the ultimate capacity of the Federal hydro system in the Missouri Basin will eventually find its greatest use and value when used as peaking capacity for an integrated regional power network owned and operated by the Federal Government, cooperatives, municipalities, power districts, and the private utilities" (pp. 200–1).

Full use of these Missouri River projects for peak load, in conjunction with large modern steam generating stations carrying base loads, could be greatly faciliated if operation of valuable reservoir space was not largely determined by the requirements of heavy summer releases of water for open flow navigation below Yankton, S. Dak. This emphasizes the extent to which provision for slack-water navigation in this lower river may be found to support great gains for the people of the basin.

A comprehensive survey of the feasibility of a slack-water navigation program for the lower Missouri River will take such possibilities into account. It may provide the basis for multiplying several times over the hydroelectric capacity which the region can ultimately obtain from this river.

In this connection, it should be noted that the great progress in large-scale fuel plant technology is not rendering hydroelectric development out of date, nor will its importance be undermined by the early achievement of competitive atomic power. Quite the contrary, great thermal stations will operate most economically on the base or intermediate portions of the load, with hydroelectric

plants, including pumped storage projects, assigned to serving peak loads and portions of the base.

The importance of such use of the hydroelectric power available from the Missouri Basin program was emphasized in a paper delivered by E. Robert de Luccia, then Chief of the Federal Power Commission Bureau of Power, before the Midwest Power Conference in 1947 at Chicago. His subject was "Coordination of Hydroelectric and Steam Electric Power in the Missouri River Basin." After discussing the possibilities of the present Missouri Basin program, and presenting charts to illustrate the use of hydro in conjunction with steam-generated power, he emphasized the special value of hydro as follows:

"Hydroelectric units are well adapted to supply the varying load demands because they have the ability to start from standstill and synchronize with the load in a small fraction of the time required for steam units. Capacity in addition to that represented on these curves must be kept in readiness to provide against emergency outages of equipment. The hydroelectric units with their quick-starting characteristics will provide a high degree of standby readiness for such emergencies.

"With hydroelectric units carrying the peak portion of the load, the fuel-electric plants can be scheduled to operate at best efficiency to carry block loads for several hours each day or to supply base loads. Such operation would save the banking of extra boilers which is required if steam-electric units are kept in readiness to operate on short notice for supplying unexpected load increases or to carry load during emergency outages of equipment" (p. 15).

Chief of Army Engineers supplementary memo to Senate Interior Committee suggests further slack-water study

At the request of Chairman Murray of the Senate Committee on Interior and Insular Affairs, the Chief of Army Engineers submitted further comments on previous testimony at joint hearings of the Interior and Public Works Committees, held in May 1957, on Missouri Basin water problems. Enclosure No. 5 contained Corps of Engineers comments on slack-water navigation, Missouri River, Sioux City, Iowa, to the mouth (hearings p. 439–442).

The Corps of Engineers memorandum makes it clear that previous studies of slack-water navigation in this reach of the river were undertaken during the preparation of the 308 report on the Missouri River (published as H. Doc. No. 238, 73d Cong., 2d sess., in 1934) and are now out of date. It concludes with the suggestion that "in view of major physical and economic changes in the Missouri River Basin since prior studies of this type of improvement, it might be desirable to undertake an investigation of preliminary examination scope so that authoritative and up-to-date data on costs and benefits will be available." It estimated the cost of such an investigation at between $100,000 and $200,000, with between 2 and 3 years required for its completion.

Dealing with physical and economic changes since completion of prior studies, the memorandum states that the Missouri Basin program as it has developed since the 1932 report is steadily reducing the problems of floods, sediment, and bank stabilization which were previously obstacles to a slack-water program. Offsetting these gains, it sees resulting improvement of flood-plain properties as increasing the cost of acquiring lands which would be inundated. But the memorandum stresses particularly the fact that "estimated future power demands are of a magnitude totally unforeseen at the time of earlier studies, with the result that the possibility of incorporation of power production into a slack-water navigation project should not be neglected in future studies."

The memorandum recognizes that construction costs have increased greatly since prior studies but adds, "there have been major advancements in construction methods, tools, and materials which should make possible certain economies in spite of the general price rise." This, and other parts of the memorandum, indicate that, while approaching the possibilities of slack-water navigation with a caution which tends to emphasize the obstacles, the Corps of Engineers feels that a new study should be undertaken.

Recent statement of division engineer confirms desirability of study

On April 14, 1959, the Missouri Basin Interagency Committee, meeting at Council Bluffs, Iowa, adopted a resolution requesting the Corps of Engineers to undertake such a study. The committee includes representatives of the Federal departments and agencies concerned with river basin problems as well as of the Governors of the States which share the basin. At the committee's June 10, 1959, meeting in Douglas, Wyo., Maj. Gen. Keith R. Barney, U.S. Army division engi-

neer for the Missouri River, responded in a paper which confirms the conclusion that a restudy of the possibilities of slack-water navigation would be constructive.

He said that any future studies should be initially of preliminary examination scope. But he added that "they should be in sufficient detail to provide reasonably firm answers concerning practicability, cost, and economic justification." He suggested the possibility of a program combining high dams and low dams, depending on cost of flowage damages, as a possible answer. He said:

"Layout and design of structures would be of major importance. Since economical power installations would require dams of substantial head and since such dams would cause inundation of large areas of fertile bottom land, comparative studies should be made of higher dams capable of power development but causing more land inundation and lower dams not permitting power development but holding land inundation to a minimum. Possibly, a combination of the two types might prove practicable, the lower dams to be used where flowage damages would be particularly high and the higher dams to be used where returns from power production would warrant the increased flowage damages."

General Barney then outlines the nature of the study required and estimates that such an investigation would cost $200,000 to $300,000 and require 3 to 4 years for completion. He points out that the Corps of Engineers will need authorization and appropriation by Congress to undertake the study and concludes:

"If the necessary authority and funds are provided, the Corps of Engineers will undertake the investigation. There can be no assurance now that the results of the investigation would be favorable to undertaking a project for slack-water navigation. The study, however, would make it possible to obtain authoritative information concerning the cost and economic justification of such a project. Accordingly, the investigation would be of value even if the results should turn out to be unfavorable."

General conclusions

Clearly, in the light of the facts set forth above, a survey of the possibilities of adding slack-water navigation and power development in the lower river to the comprehensive Missouri Basin program should be promptly undertaken. It offers both upper and lower basin States the opportunity to eliminate conflicts over use of water by assuring the fullest multiple-purpose use of all parts of the river and its tributaries.

Water is a priceless asset to any civilization. The importance of conservation and use of this asset will rapidly increase as the country's population pushes toward projected 200 and 300 million levels. To fully serve our needs, a program for development of this or any other river must meet the challenge to make the greatest possible use of the basin runoff for all purposes before it flows to the sea.

LELAND OLDS,
Director, Energy Research Associates.

STATEMENT OF KEN HOLUM, EXECUTIVE DIRECTOR, MID-WEST ELECTRIC CONSUMERS ASSOCIATION, ABERDEEN, S. DAK.

Gentlemen of the committee, a little over a year ago, the consumer-owned electric utilities in the eight States of the upper Missouri Basin organized the Mid-West Electric Consumers Association. Today electric utilities serving almost a million consumers are affiliated with Mid-West. I am executive director of the association.

As preference customers of the Bureau of Reclamation, we have a tremendous interest in the Missouri Basin project. While representing our own interests, we attempt to represent a point of view that reflects the public interest as well.

At the meeting when Mid-West was organized, the members and prospective members drafted a broad general statement of objectives. It begins:

"The Mid-West Electric Consumers Association is an organization dedicated to the purpose of maintaining an abundant supply of electric energy for all consumers of electric energy in the eight States in the upper Missouri Basin at the lowest possible cost.

"To attain our goal we must give diligent attention to the conservation of our natural resources and their development. The benefits from the development of these public resources must always flow to the public * * * water is the most valuable resource in our area. Its wise use is of paramount importance to every citizen in the eight States."

Because of our basic concern over wise water use, we urge the adoption of this resolution calling for a study of the possibilities of slack-water navigation on the Missouri River.

As this committee well knows, water is a most precious resource in the upper Missouri Basin. The supply of water available in our eight-State area limits and determines our population growth, our industrial development, and the productivity of our farms and ranches.

Our consumer-owned utilities have a life and death interest in the amount of hydroelectric power available. In much of our eight-State area, density for the rural electrics is such that the Rural Electric Administration could not establish feasibility until the passage of the Flood Control Act in 1944.

Most of our municipal utilities are small and widely scattered. Their first opportunity to participate in large and efficient modern-day generation came when they first received Missouri Basin hydroelectric power.

Let me make our position completely clear. The members of the Mid-West Electric Consumers Association are anxious to have navigation developed on the Missouri River. We want it to be the best possible type of navigation. We want navigation that is consistent with sound water-use principles.

We do not believe that the upper Missouri Basin States can afford to supply the necessary water for a 9-foot free-flowing navigation channel. A tremendous amount of precious water is involved.

Early this spring, a subcommittee of the Missouri Basin Interagency Committee prepared a supplement to the "Adequacy of Flow Report." On page 49 of this supplement you will find projections for the use of the water available in the main stem—6,384,000 acre-feet are made available for irrigation and municipal use. 737,000 acre-feet are allocated to the Department of Agriculture Conservation program; 1,139,000 acre-feet to reservoir evaporation; 3,637,000 acre-feet to stream sanitation; and 11,813,000 acre-feet to navigation, in addition to the substantial amount previously allocated to minimum streamflows.

Summarizing, we find 7,121,000 acre-feet allocated to upstream benefits in the dry upstream States which supply the water, and 15,555,000 acre-feet are allocated to downstream purposes. More than twice as much water is assigned to downstream purposes as upstream benefits despite the fact that upstream States provide the water and the flood control storage for their downstream neighbors.

Hydroelectric power which is the principal reimbursable item (paying not only its own way, but helping to finance the other benefits) receives no primary allocation of water.

Obviously this program, if unchanged, is headed for violent conflict. Several upstream legislatures have already adopted protesting resolutions.

At a recent meeting of the MBIAC at Helena, Mont., in response to a question from the committee Commissioner of Reclamation, Floyd E. Dominy said in substance that substantial conflicts over water use were certain to develop in the Missouri Basin. He went on to say that the question of whether or not enough water is available to support a nonreimbursable, free-flowing navigation channel needs complete review.

Fortunately a program is available that can avoid all of these conflicts. Slack-water navigation is better navigation. It conserves water instead of hastening its flow to the sea and makes substantially more water available for upstream purposes.

If slack-water navigation is feasible and developed, it will make more water available for domestic, municipal, and industrial purposes upstream. It will permit more irrigation instead of less. Water releases can be programed to meet the demand curves of the hard-pressed, power-short preference customers. This will provide substantially more Federal revenue. A much more practical and useful navigation channel will have been provided.

Studies of slack-water navigation channel will, I trust, include studies of the possibility of power development at the low-head dams on the channel.

An indication of the widespread support for this study in the entire Missouri Basin is found in the minutes of the Missouri Basin Inter-Agency Committee meeting at Council Bluffs, Iowa, April 16. I quote:

"The Governor (Herschel Loveless of Iowa) then introduced a motion to the effect that a thorough investigation of the potential of slack-water navigation on the Missouri River be conducted by the Corps of Engineers. He pointed out that with all of the main stem reservoir capacity we could develop, there might be a time in the future when the available capacity would not quite meet the needs of our growing metropolitan areas, farm areas, and the needs for human

consumption. Mr. Wolter seconded the motion for the State of Minnesota. There was considerable discussion of the motion including the urgency of undertaking the investigation, the propriety of the interagency committee, with its Federal membership making such a request or whether the matter was more appropriate for action by the Missouri Basin States Committee. Governor Herseth and Messrs. Miller, Fabrick, and Hoisveen spoke for their respective States in favor of the proposed investigation. The motion was carried."

The members of the Mid-West Electric Consumers Association who are interested both in power supply for the consumer owners and sound and wise use of the region's limited supply of fresh water are grateful to this committee for its interest in wise water use. We hope that a study of slack-water navigation will be authorized and that the study itself will be carried forward in the most expeditious manner possible.

Thank you.

MOBRIDGE, S. DAK., *August 25, 1959.*

Hon. GEORGE MCGOVERN,
Congress of United States,
House of Representatives, Washington, D.C.

DEAR GEORGE: Mobridge Chamber of Commerce wishes to endorse your proposal for survey slack-water navigation on Missouri in an effort to obtain maximum benefit from Missouri River development.

MOBRIDGE CHAMBER OF COMMERCE HIGHWAY AND TRANSPORTATION COMMITTEE,
NORMAN GLADER, *Chairman.*

HURON, S. DAK., *August 25, 1959.*

Congressman GEO. MCGOVERN,
House Office Building,
Washington, D.C.:

Our group 100 percent behind slack-water navigation study of Missouri River. A favorable report would be the answer to most of water allocation problems. We urge favorable action at August 26 hearing.

HURON CHAMBER OF COMMERCE
WATER RESOURCES COMMITTEE,
J. H. RUDDY, *Huron, S. Dak.*

TESTIMONY OF V. T. HANLON, MANAGER, EAST RIVER ELECTRIC POWER COOPERATIVE, MADISON, S. DAK.

My name is V. T. Hanlon. I am manager of the East River Electric Power Cooperative, Madison, S. Dak. I am submitting this testimony on behalf of this organization and behalf also of the South Dakota Rural Electric Association, as chairman of the power supply committee of this organization.

The electric rates of the 45,000 families served wholesale power by East River—and the rates and availability of power for all the rural electric members of South Dakota—are naturally our principal concern.

It's an old story, but one that bears repeating: Just the incomplete development of the hydroelectric potential in the upper States of the Missouri Basin made rural elecrification possible for thousands and thousands of farm families.

Without this development these people would still be living a mode of life as medieval as the attitude of those who have traditionally opposed this type of development by the Federal Government.

But all of us in rural electrification think in terms broader than the cost of the commodity which we have to market. Ours is an agricultural area. Our lifeblood is our water. To waste a drop of water for any purpose in the arid and semiarid Missouri Basin is a tragic misuse of our most precious resource.

Slack-water navigation would make possible the maximum development of power from the electric facilities of the mainstem dams now constructed, being constructed or planned.

In addition, reliable authorities tell us, there is a large potential of hydroelectric power downstream that can be tapped.

But more importantly, these dams downstream would store the water so that vast quantities of water not now being used would be put to good use, to irrigate farms, for supply for our cities and towns, for domestic and other farm use, for developing power—and all of the worthwhile purposes of water.

For several years the South Dakota Rural Electric Association and the East River Electric Power Cooperative have passed resolutions urging that a study of slack-water navigation be undertaken.

Typical resolutions passed by these organizations are attached to this statement.

I want to commend the members of this committee for considering this study.

I most emphatically urge you to consider this study favorably.

Decision to study the possibility of slack-water navigation could easily be the most significant decision concerning water ever made for the residents of the Missouri Basin—except the passage of the Flood Control Act of 1944, itself.

Slack-water navigation holds the promise of more power, much more power, more water for all uses and a system of navigation that will permit this maximum development.

I urge this committee to take this first important step to make these possibilities realities.

RESOLUTION

Adopted by the South Dakota Rural Electric Association delegate body at their 17th annual meeting, November 20–21, 1958, at Huron, S. Dak.

Whereas the South Dakota Rural Electric Association believes that the using of Missouri River water for downstream navigation that could be utilized for the manufacturing of electricity is in violation of the Flood Control Act of 1944; and

Whereas the South Dakota Rural Electric Association favors navigation only when it does not waste water that is needed for upstream uses, now, therefore, be it

Resolved, That the South Dakota Rural Electric Association requests the South Dakota Legislature to urge the money for a study of slack-water navigation on the lower reaches of the Missouri River and that such study be completed as soon as possible.

RESOLUTION

Adopted by the South Dakota Rural Electric Association delegate body at their 16th annual meeting, November 14–15, 1957, at Huron, S. Dak.

Whereas the people of the United States are investing substantial sums of money in the development of the land and water resources of the Missouri Basin; and

Whereas this investment by the people makes mandatory the facilities be managed in such a way as to secure maximum benefits for all the people; and

Whereas revenue from the sale of hydroelectric power is expected to repay 89 percent of the reimbursable portion of the public investment in the Missouri Basin; and

Whereas revenue from the sale of hydro-electric power is expected to repay 89 percent of the reimbursable portion of the public investment in the Missouri Basin; and

Whereas the public can recover the greatest amount of their original investment only if the facilities in the basin are managed in such a way as to produce the greatest amount of firm electric energy; and

Whereas the present divided, confused and conflicting management of the Missouri Basin is wasting a tremendous amount of the basin's precious water in an unwise and extravagant attempt to provide a nine-foot-free flowing navigation channel on the lower Missouri; and

Whereas the present water masters of the Missouri are flagrantly violating the O'Mahoney-Millikin amendment written in the Flood Control Act of 1944 to protect the interests of upstream people: Now therefore be it

Resolved, That we respectfully urge the Congress of the United States to direct that a thorough investigation into the possibilities of slack water navigation on the lower Missouri by a competent and unprejudiced agency, and that the Congress make available adequate funds for the necessary studies and investigations; be it further

Resolved, That control of the entire federally financed system be placed under one new representative agency, headquartering in the basin, and in the interest of greater overall efficiency, responsive to the public wishes, and to the better use of the water resources of the area; and be it further

Resolved, That the Congress direct this agency to hear and give appropriate consideration to the opinion of the authorized representatives of the preference customers, who are repaying most of the cost of the entire system.

RESOLUTION

Adopted by the South Dakota Rural Electric Association at its May 29, 1957, quarterly membership meeting at Huron, S. Dak.

Be it resolved by the members of the South Dakota Rural Electric Association meeting in Huron, May 29, 1957, That the congressional delegation of South Dakota be urged:

1. To exert every effort to make funds available to complete the study on the Oahe irrigation unit;
2. To support and exert every effort for funds for Big Bend Dam;
3. To exert every influence to bring about a study on slack water navigation on the lower Missouri River and a study of the desirability of firming up hydroelectric power of the Missouri Basin with power produced at steam-generated plants;
4. To vote for and support in every way possible the Trimble bill;
5. To vote for and support adequate loan funds for rural electric distribution, generation and transmission cooperatives, and for a speedy expansion of rural telephone cooperatives, and
6. To do everything in their power to the end that the Bureau of Reclamation accept a utility responsibility to their preference customers.

Mr. MCGOVERN. I have one more consent request, that the National Rural Electric Cooperative Association be permitted to file a statement by Mr. Charles Robinson.

Mr. BLATNIK. Without objection, it is so ordered.

(The statement referred to follows:)

STATEMENT OF NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

The National Rural Electric Cooperative Association is the national service organization of more than 900 rural electric systems which serve central station electric service to 5 million rural consumers in 46 States.

The interest of rural electric systems in a Missouri River slack-water navigation channel arises from the relation that such a channel would bear to the firm power capability of the Federal hydroelectric plants located upstream from the proposed navigation project.

One hundred and thirty-nine rural electric systems in the Dakotas, Nebraska, Montana, Minnesota, and Iowa now depend upon these Missouri River water power developments for all or a portion of their wholesale power supply. Twenty-six additional systems in Minnesota and Iowa have been promised allocations of Missouri River power just as soon as it becomes available, and the public works appropriation bill for the fiscal year 1960, now awaiting Presidential signature, provides for the construction of Federal transmission lines in Iowa to deliver Missouri River Basin power to additional preference customers in that State.

The loads of all of these rural electric systems are growing rapidly. Our people in the Basin States are, therefore, most anxious that all avenues which hold promise of increasing the firm power capability of the Missouri River power system be thoroughly investigated. We believe that the slack water navigation channel between Yankton, S. Dak., and the mouth of the Missouri River holds such promise.

The Missouri River Basin project, including all of the navigation, flood control, hydroelectric, and irrigation features is the largest single land and water utilization program ever undertaken by the United States. Its completion is estimated to take another 67 years, and will cost more than $5.8 billion; compared to the $823 million estimated cost of the Central Valley project in California, and the $1.7 billion estimated cost of the Colorado River storage project.

The existing electric power generation and transmission systems of the Missouri River Basin project embraces seven States, and when ultimately joined to the Colorado River storage project through the Colorado Thompson project will constitute a Federal resource development stretching from the Mississippi River to the Colorado River and virtually from the Canadian border to Mexico.

The unprecedented magnitude and complexity of the Missouri River Basin project has created major problems of multiple-purpose resource management many of which remain unsolved. These problems arise not only from the physical magnitude of the project but from built-in conflicting characteristics caused by combining irrigation and hydroelectric power features with navigation features which require substantial releases of stored water during periods when such releases are inimical to maximum generation of firm hydroelectric power.

In 1953 the Bureau of Reclamation was allocating 31 percent of the total cost of the main stem Missouri River multiple-purposes reservoirs to power and 69 percent of the cost to flood control and navigation. In 1959 the Bureau is, by contrast, allocating 61 percent of project costs to power and 25 percent to flood control and navigation. This change represents a 100-percent increase in that portion of main-stem project costs allocated to power.

There has, however, been no correlative change in the water use priority on the Missouri River. The production of firm power at the main stem reservoirs above the proposed slack-water navigation project is still very much subservient to release of water for navigation purposes. So although for cost allocation purposes power is now a principal project purpose, it is, for water utilization purposes, a distinctly incidental purpose. This is especially distressing to the power users. Not only the major cost allocation burden but also the overwhelming project repayment burden is born by the power features of project; 68.3 percent of total project costs, representing about $4 billion, is classed as reimbursable cost, and consists of investment in power, irrigation, recreation, and municipal water facilities; 31.7 percent of project costs, representing $1.85 billion is classified as nonreimbursable, and consists of flood control and navigation facilities. Of the total reimbursable cost of $4 billion, power users will repay $3.56 billion or 89 percent. The water users will repay only $408 million, 15 percent of that portion of project costs allocated to irrigation and 10 percent of total reimbursable costs. Thus, those who purchase the power generated at the Missouri River Dams, including rural electric cooperatives, will repay not only the total cost allocated to commercial power but also an overwhelming portion of cost allocated to irrigation.

Despite this major financial burden that has been imposed on the power features of the project, it is still insisted that a minimum Missouri River navigation season of 7 months is indispensable. To maintain a 9-foot free-flowing navigation channel during 7 months of each year, and through a 770-foot difference in elevation, requires a truly astronomical quantity of water. It is literally an attempt to fill a bottomless pit.

The apparent insistence on maintaining a 7-month free-flowing navigation channel between Yankton and the mouth of the Missouri reduces the firm power capability of the multiple-purpose projects located above Yankton and thereby substantially impairs the payout potential of the entire project in the following manner.

The Corps of Engineers estimates that at the 1967 level of development on the Missouri River the firm power capability during the August peakload season will be approximately 1,799 kilowatts whereas in December of the same year the firm power capability will be only 1,158 kilowatts. This means that summer firm power capability is 56 percent greater than winter firm power capability. This differential is caused in large part by the fact that so much water is released from the reservoir storage projects to maintain a 9-foot free-flowing navigation channel during the summer months that little reservoir storage remains with which to generate power during the winter.

This loss of winter firm energy capability, conservatively estimated, means *that one-half billion kilowatt-hours per year of firm energy generation are* being lost because of the need to maintain a free-flowing navigation channel below Yankton. This is equivalent to an annual loss of revenue to the Federal Government of at least $1,500,000 per year. In view of the fact that total proceeds from Missouri River power sales revenue were 23 percent below anticipated levels through the fiscal year 1958, we believe it is indeed time that a very careful investigation be undertaken to determine what action can be taken to increase the firm energy capability of the main stem Missouri River Basin plants. The rural electric systems in the Missouri Basin need more Federal power. And ad-

ministrative practices which place very heavy project repayment burdens on the hydroelectric features of the project, and simultaneously cause the project to be operated so as to preclude satisfaction of such schedules, appears somewhat questionable.

The National Rural Electric Cooperative Association, and its membership in the Missouri Basin States, have since 1957 suggested the desirability of investigating a slack-water navigation system between Yankton and the river mouth. Appearing before a joint subcommittee of the Senate Committee on Interior and Insular Affairs and the Senate Committee on Public Works, during hearings held on May 3, 1957, concerning Missouri River Basin power marketing problems, we suggested that the Corps of Engineers be authorized to investigate the costs of converting the existing free-flowing 9-foot navigation channel, and such additional channels as are contemplated below Gavins Point Dam, to a multiple-purpose slack water-type navigation system. We are, of course, not navigation experts but we believe it does stand to reason that a slack water navigation channel maintained by a series of dams and/or canals would substantially reduce required releases from the upstream storage projects during the navigation season and would thereby allow the retention of large quantities of additional water for the generation of hydroelectric power when it is most needed during the winter peak season.

Moreover, the locks, dams, and canals installed to maintain the slack-water navigation system could be utilized to develop the hydroelectric potential of the river below Gavins Point which has been estimated as being on the order of 2 million kilowatts.

The events of the past 2 years have not changed our position concerning the desirability of investigating the costs and benefits of a slack-water navigation system in the Missouri River between Yankton and the mouth. It goes without saying that certain arguments against a slack-water navigation system can and will be interposed. How will such a system effect summer navigation on the Mississippi River below its confluence with the Missouri? How much of the farmland between Yankton and the confluence of the Missouri and Mississippi might be inundated by a slack-water navigation system? Will slack-water navigation, and the consequent reduction in water releases from the upstream reservoir storage projects, entirely mitigate the present imbalance between summer and winter firm power capability of the Missouri River Basin system? These are some of the questions that may be raised. But against them must be considered the loss of 600,000 kilowatts of firm power capability at the upstream projects during 6 months of the year, the possibility of developing an additional 2 million kilowatts of firm power capability between Yankton and the mouth of the Missouri River, and the overall controlling criteria of whether ultimate upstream irrigation demands will so decrease Missouri River streamflow as to render it physically impossible under any conditions to maintain the 9-foot free-flowing navigation channel. In view of all these factors we wholeheartedly support such investigations as are necessary to determine the costs and benefits of a slack-water navigation channel in the Missouri River and whether or not engineering and economic feasibility for such a channel can be shown.

Mr. BLATNIK. Joining Mr. McGovern is Mr. Coad, of Iowa, and Mr. Burdick, of North Dakota, and Mr. Anderson of Montana.

STATEMENT OF HON. MERWIN COAD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IOWA

Mr. COAD. Mr. Chairman and members of the committee, I first want to express my appreciation for this opportunity to appear before you. I have been interested in, and have urged that studies be made of, slack-water navigation on the Missouri River since I first came to Congress. In 1957, as a freshman Congressman, I testified at the joint hearings held by the two committees of the Senate on Missouri Basin water problems—and in the testimony I urged then, as I do now, that the possibilities of slack-water navigation on the Missouri River be studied. I am very much disappointed that today, instead of commenting upon the excellent progress that is being made in the

construction of the locks and dams to furnish the slack-water navigation, I must merely continue my plea that the studies be authorized.

Mr. Chairman, as I pointed out in 1957, the area of Iowa which I represent—15 counties in the northwestern and northcentral section of Iowa—will need additional large quantities of low-cost power if the rural electric cooperatives which serve most of this area are to do the job they were set up to do—and if the area is to continue to grow and prosper.

I pointed out at that time that were two long-term solutions for this pressing need: (1) The construction of low-cost lignite-burning steam plants to firm up the hydroelectric power, and (2) providing slack-water navigation.

What I said in 1957 still holds true. The long-term solutions are still the same. And although we are here to discuss only slack-water navigation, I think that it is important to point out that these two long-term solutions are not mutually exclusive, but are instead completely consistent with one another. In fact, it is my firm belief that because of the tremendous increases in the use of electric power, we will eventually find it necessary to authorize both lignite-burning steam plants and slack-water navigation, so that the maximum benefits of Missouri River water can be made available.

Mr. Chairman, there is every reason why we should have studies of slack-water navigation on the Missouri River made immediately—and there is no reason opposed to it. The preference power customers are unhappy that their power needs cannot be met because water that is needed for power production in the winter is held in storage for release during the navigation season. As a result, although the installed capacity at the existing dams, excepting Big Bend, will be approximately 1,600,000 kilowatts by 1963, the Bureau of Reclamation will contract to sell only about 1 million kilowatts of firm power. The loss of this large block of firm power will mean that the preference customers will have to look to other sources for their increasing power needs—and they will have to pay more than double the Bureau rate for it. This must not be allowed to happen.

I urged in 1957—and I urge now—that priority in the use of the water be given to power use as against navigation use. But I am also very sympathetic to the needs of the navigation users. Theirs is also a pressing need and a worth while use. Slack-water navigation could supply the answer to the needs of both the power users and the navigation users. How can we fail to study it?

It must be pointed out that slack-water navigation would not only make available to the preference customers the additional 600,000 kilowatts of firm capacity from existing plants, while also taking care of navigation needs, but it could create as much as 2,200,000 kilowatts of additional hydroelectric power.

Slack-water navigation could, therefore, produce tremendous benefits for all of the water users of the Missouri River. It could supply the answers to these most pressing problems. I urge the committee to authorize the Corps of Engineers to study the problem, and to determine whether slack-water navigation on the Missouri River from Yankton, S.D., to the mouth of the river is economically feasible and desirable.

Mr. BLATNIK. We will now hear from Mr. Burdick, of North Dakota.

STATEMENT OF HON. QUENTIN N. BURDICK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH DAKOTA

Mr. BURDICK. Mr. Chairman and members of the committee, being a member of a busy committee myself, I know how you appreciate long statements, so I will not read my statement but ask unanimous consent that it be included in the record.

Mr. BLATNIK. It is so ordered.

(The statement referred to follows:)

STATEMENT OF CONGRESSMAN QUENTIN N. BURDICK

Mr. Chairman and members of the committee, I want to thank the committee for holding these hearings and for giving me this opportunity to express my views briefly. I shall be brief, because I know that the committee's time is short and also because the position I support is so clearly right—and necessary—that it can be established in very short order.

I asked for these hearings. I think it is absolutely essential that we find out—as quickly as possible—whether slack-water navigation on the Missouri River is economically feasible. Water and low-cost electric power are the economic lifeblood of North Dakota, as well as of the entire basin. We do not have enough low-cost electric power for North Dakota now, and we are going to need much more in the future. Some of the leading authorities on the subject have pointed out that slack-water navigation would not only furnish large additional amounts of low-cost electric power, but would also take care of all navigation needs. Certainly, the least that Congress can do is to have an immediate study made to determine whether this can be done economically.

There is a shameful waste of hydroelectric capacity in the Missouri River Basin. It is estimated that the installed capacity at existing dams, excluding Big Bend, will be about 1,600,000 kilowatts by 1963. But the Bureau of Reclamation is contracting to sell only approximately 1 million kilowatts of this capacity as firm power. This loss of 600,000 kilowatts of firm capacity is caused by the fact that water that is needed to generate electric power in the winter is held back in storage to be released during the navigation season to furnish free-flowing navigation. Now, I'm in favor of helping navigation. But electric power is more important and the law—the O'Mahoney-Millikin amendment to the Flood Control Act of 1944—gives electric power generation priority to the water as against navigation. So this wasteful use of the water—this destruction of 600,000 kilowatts of firm capacity—is not only economically wasteful, not only unfair to the power users, but it is also in violation of law. We've complained again and again about this illegal waste of electric power, but thus far to no avail.

Slack-water navigation would be an ideal answer to all of our problems. It would help the power users by making an additional 600,000 kilowatts of firm capacity available from existing installations, and new capacity, from the new dams, in a total amount of 2,200,000 kilowatts. It would take care of all navigaiton needs. And it would end this dispute over the misuse of the water. If there were a Solomon to settle this problem, he would undoubtedly immediately study the economic feasibility of slack-water navigation.

I have discussed the problem, up to this point, in general terms, as it applies to all preference power users in the basin. I now want to take a moment to explain how it affects the preference customers of my district. We have very low consumer density, in many cases less than one farm or ranch to the mile. North Dakota was one of the last States to benefit from the rural electrification program because of this low density. REA had to make careful and extensive studies to make sure that the loans would be repaid. And in many instances the loans could not be made until it became certain that there would be ample supplies of low-cost Bureau power to make the loans feasible. The rural systems in my district have succeeded to date only because of these supplies.

But in my district, as elsewhere, the use of electricity has grown and will continue to grow at a great pace. And we want to help it grow. We must have

the additional supplies of low-cost power that this load growth requires, and it can come only from these Government projects. If the systems in my district are unable to get the additional supplies of low-cost power that they need, if they must get their additional supplies from other sources at greatly increased costs, it could ruin many of them, and it would certainly deliver a death blow to the growth and economic life of my district.

I know that Congress will not let that happen. I know that Congress will somehow provide the answer. There is every indication that slack-water navigation is the answer. We must find out as soon as possible if it is, so that we can proceed with it, if it is, or seek another answer if it is not. I therefore urge this committee to authorize the Corps of Engineers to make the study necessary to determine the economic feasibility of having slack-water navigation on the Missouri River from Yankton, S. Dak., to the mouth of the river.

Mr. BURDICK. May I have unanimous consent to include in the record six or seven telegrams that I have received from various REA associations in North Dakota?

Mr. BLATNIK. Without objection, it is so ordered.

(The telegrams are as follows:)

GRAND FORKS, N. DAK., *August 25, 1959.*

Hon. QUENTIN N. BURDICK,
House of Representatives,
Washington, D.C.:

Highly appreciate your support of slack-water navigation plan for lower Missouri. Reasonable solution to North Dakota's vital power shortage and industrial development problems.

NORTH DAKOTA ELECTRIC COOPERATIVE,
J. J. WHELAN, *President.*

CARRINGTON, N. DAK., *August 26, 1959.*

Congressman QUENTIN BURDICK,
House Office Building,
Washington, D.C.:

In this year of drought, we are very conscious of water conservation. We support the slack-water navigation on the lower Missouri. We must conserve water for domestic use, irrigation, and power production.

E. M. ARNTSON,
Manager, Tri-County Electric Co-Op.

STANLEY, N. DAK., *August 26, 1959.*

Hon. QUENTIN BURDICK,
House of Representatives,
Washington, D.C.:

The future growth and development of the rural electrification program in the upper Missouri Basin States is critically dependent upon proper utilization of the Missouri River water resource to this end, and as intended in the O'Mahoney-Millikin amendment. We support you on August 26 in your resolution asking for slack-water navigation on the lower Missouri.

BOARD OF DIRECTORS,
MOUNTRAIL ELECTRIC COOPERATIVE, INC.

BISMARCK, N. DAK., *August 25, 1959.*

QUENTIN BURDICK,
House of Representatives,
Washington, D.C.:

Our board of directors and I are of the opinion that a complete study of slack-water navigation for the Missouri River should be made at this time. As you know, the present plans of the Bureau of Reclamation for the allocation of power will not meet the needs of the preference customers in the area served by the

Bureau. We are also of the opinion that free-flowing navigation is impossible to justify when power is so urgently needed by preference customers in the Missouri Basin. We sincerely hope that the U.S. Congress will see fit to take immediate action to see that such study is made.

GEORGE W. CORNOG,
General Manager, Kem Electric Co-op, Linton, N. Dak., North Dakota Director for Mid-West Electric Consumer Association.

WILLISTON, N. DAK., *August 25, 1959.*

Congressman QUENTIN BURDICK,
House Office Building,
Washington, D.C.:

Williams Electric Cooperative consisting of 1,500 farm families in northwestern North Dakota wholeheartedly in favor of slack-water navigation proposal for Missouri River. We maintain:

(1) This would provide unlimited navigation opportunities entire navigation season; (2) it would conserve large amounts of water during summer months for irrigation, industrial and domestic uses, recreation, and wildlife; (3) it would make larger quantities of firm power available for sale by Bureau of Reclamation at firm power rates, thus enabling the Bureau to meet more of the areas power needs besides resulting in greatly increased power revenues to the Bureau. Respectfully suggest this telegram be submitted to House Interior Committee hearings.

WILLIAMS ELECTRIC COOPERATIVE, INC.,
S. A. FORSETH, *Manager.*

NEW ENGLAND, N. DAK., *August 25, 1959.*

Hon. QUENTIN BURDICK,
House of Representatives,
Washington, D.C.:

This cooperative urges that waste of Missouri River water for free-flowing navigation channel be stopped. Waters needed and can be more profitably used for production of power and irrigation. Preference customers in basin face immediate power shortage.

CROSS,
SLOPE ELECTRIC COOPERATIVE.

WATFORD CITY, N. DAK., *August 25, 1959.*

Congressman QUENTIN BURDICK,
House of Representatives,
Washington, D.C.:

Board of directors and manager of the McKenzie Electric Co-op, Inc., Watford City, N. Dak., wholeheartedly urges support of Burdick's resolution of slack-water navigation in lower Missouri.

BOARD OF DIRECTORS,
MCKENZIE ELECTRIC CO-OP, INC.

DICKINSON, N. DAK., *August 25, 1959.*

Hon. QUENTIN BURDICK,
U.S. Congressman, House Office Building,
Washington, D.C.:

We urge committee consideration of a policy that will conserve water and accelerate the storage to an efficient level behind the multipurpose dams of the upper Missouri River. We believe that such a program will be of maximum benefit to the greatest number of people and will provide the greatest return to the Government.

Sincerely,

WEST PLAINS ELECTRIC COOPERATIVE,
A. L. SHJEFLO, *Manager.*

EDGELEY, N. DAK., *August 25, 1959.*

Hon. QUENTIN L. BURDICK,
House of Representatives, Washington, D.C.:

The James Valley Electric Cooperative members, board of directors, and employees request your assistance in conserving water in the Missouri River Basin for the production of power for the preference customer. Your resolution asking slack-water navigation on the lower Missouri River meets with this organization's approval.

JAMES VALLEY ELECTRIC CO-OP, INC.,
D. D. MCCHESNEY, *Manager.*

GARRISON, N. DAK., *August 25, 1959.*

Hon. QUENTIN BURDICK,
Representative, U.S. Congress,
House Interior and Insular Affairs Committee,
Washington, D.C.:

North Dakota rural electric cooperatives need all of the power which can be made available to them as preference customers, such needs cannot be satisfied if water over and above that needed for slack-water navigation is released without first utilizing it for the production of power.

MCLEAN ELECTRIC COOPERATIVE, INC.,
JULIUS MATTSON, *President.*

KINCAID, N. DAK., *August 26, 1959.*

Congressman QUENTIN BURDICK,
House Office Building, Washington, D.C.:

Critical water shortage and crucial power shortage makes it imperative that free flowing navigation bestopped. The resultant increased power production will also increase revenue to Treasury and provide the greatest possible return. Slack-water navigation appears to be the only economical way to provide navigation for the lower river.

BURKE DIVIDE ELECTRIC CO-OP.,
R. L. POTTS, *Manager, Columbus, N. Dak.*

Mr. BURDICK. Mr. Chairman, we believe that there must be steps taken to firm up much of our power in the Missouri Valley. Many of our preference customers, the REA's, are in dire need of power today. We know it to be a growing need. There is a growing need for power. Consumption is increasing year by year. We believe the project has considerable merit and certainly a study should be made of it.

All that I can say at this time, outside of the statement that I am filing, is that I associate myself with the other statements made.

Mr. BLATNIK. We will now hear from our colleague from the great State of Montana, Mr. LeRoy Anderson.

STATEMENT OF HON. LeROY ANDERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MONTANA

Mr. ANDERSON. I appear in support of the resolution for a study of slack water navigation. I have a written statement and I ask that it be made a part of the record in full as though read.

Mr. BLATNIK. Without objection, it is so ordered.

(The statement, as though read, follows:)

STATEMENT BY HON. LEROY ANDERSON, AUGUST 26, 1959

SLACK-WATER NAVIGATION ON MISSOURI RIVER

(With reference to the committee resolution [docket 1036] to review its previous report to determine advisability of improvements in navigation from Yankton, S. Dak., to the mouth of the Missouri River.)

Mr. Chairman, when the Corps of Army Enginers' so-called Pick plan for the Missouri River and the Bureau of Reclamation's Sloan plan were welded into the Pick-Sloan plan, there were many who contended that it was unrealistic—that there is not enough water in the river for both plans to work.

The Sloan plan called for generation of hydroelectricity for upper Missouri Basin uses and for irrigation of large areas.

The Pick plan is basically to maintain a flowing navigation channel from Sioux City to the mouth of the Missouri River, which requires a large amount of water.

A little more than 2 years ago, a shortage of power for rural electric customers in the upper Missouri Basin began to threaten, and Senator James E. Murray called hearings of the Senate Interior and Insular Affairs Committee. There were protests from upper basin States against release of water to meet navigation requirements instead of the hydroelectric power requirements of the upper basin. A controversy raged over whether the O'Mahoney-Millikin amendment to the Flood Control Act of 1944 is being violated by the releases. That amendment read:

> (b) The use for navigation, in connection with the operation and maintenance of such works herein authorized for construction, of waters arising in States lying wholly or partly west of the ninety-eighth meridian shall be only such use as does not conflict with any beneficial consumptive use, present or future, in States lying wholly or partly west of the ninety-eighth meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes.

The controversy has been heightened recently by the proposal to start work on irrigation in North Dakota. The Governor of Missouri has written his Senators of his concern that the irrigation will require water needed for navigation, sanitation, municipal water, and industrial development in the lower basin.

Because of the rising controversy, the Chief of Army Engineers, on June 7, 1957, wrote Senator Murray that, and I quote, "* * * in view of major physical and economic changes in the Missouri River Basin since prior studies of this type of improvement (slack-water navigation), it might be desirable to undertake an investigation of preliminary examination scope so that authoritative and up-to-date data on costs and benefits will be available."

I heartily endorse such a study.

It is my conviction that the lower Missouri Basin itself soon will find that water is too precious to let several million acre feet annually run downstream to support navigation alone. New industrial processes require enormous quantities of water. In a recent study by Edward Ackaerman and George Loff, there is an impressive table of the quantity of water used in producing 1 ton of various chemical products. It takes 180,000 gallons of water to make a ton of rayon yarn. It

requires 31,000 to 94,000 gallons to produce a ton of synthetic ammonia—a nitrogen fertilizer material. It takes 200,000 gallons to produce a ton of ammonium sulfate, used in fertilizer. A ton of butadiene (for rubber) takes 1,760,000 gallons of water.

The problem of slack-water navigation in the lower Missouri River is no longer a simple matter of whether the prospetcive tonnage carried by river boats justifies the expenditure, but involves the needs of the whole basin—the upper and lower basin—for water for consumptive uses.

I was recently told of a conversation between Mr. Morris L. Cooke, who chaired our 1950 national water problems survey, and a recently retired chemical engineer, on the water problem. Both were eminent authorities on the subject.

These two men agreed that during the lives of people now living, the time will come when no major American river flows into an ocean.

This is an astounding statement. But we are already seeking ways to convert salt and brackish water into fresh water to meet the acute water needs in some regions of the United States. We are exploring ways to wring more rainfall out of the clouds in other areas.

Competition for water in the Missouri Basin has begun, and I shall certainly defend the right of the upper basin to all the water that arises in the upper basin States with all my ability.

But I would like to join with Senator Murray's statement, in opening the 1957 hearings, when he said:

> Rationing scarcity always means strife. What we need is to find ways to meet all the resource and water needs in both the upper and lower Missouri Basin rather than to bicker over a division of inadequacies. One of the ways we can enlarge our water resource base is to substitute slack-water navigation for a flowing channel and thereby make available millions of acre-feet of water for irrigation and for industrial and economic development throughout the valley.

The request that a study of slack-water navigation in the lower Missouri Basin be undertaken is pursuant to that policy of seeking ways to assure abundance through conservation and wise use of our most important resource.

Thank you.

Mr. BLATNIK. Thank you, Mr. Anderson.

Are there any questions?

(No response.)

Mr. BLATNIK. Are there any further witnesses to be heard?

(No response.)

If there is no objection, the committee will now go into executive session.

(Whereupon, at 11:30 a.m., the committee went into executive session.)

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